

Release Date 7-19-67

CONFIDENTIAL

Release Date 7-6-67
Verbally by Otto Barton

CONFIDENTIAL

P-W

COUNTY Apache AREA 15 mi SW Red Rock LEASE NO. Nav 14-20-0603-8823
mt. States Petroleum (5-1-94)
WELL NAME ~~Kerr McGee~~ #1 Navajo
LOCATION SE SW SEC 32 TWP 36N RANGE 30E FOOTAGE 660' FSL 2000' FWL
~~REDACTED~~ STATUS Rel ~~1-19-67~~ TOTAL 3050 PBT
ELEV 7564 GR KB SPUD DATE 1-19-67 COMP. DATE 2-1-67 DEPTH 3864'
Rel - estimate
as 377
CONTRACTOR

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY	x
10 3/4	323	200	NA	DRILLED BY CABLE TOOL	
8 3/4	3159	700		PRODUCTIVE RESERVOIR	
2 3/8	2866			INITIAL PRODUCTION	811 BOPD
					Re-work 851 BOPD
					Cor 97-1

[illegible]

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG <u>Am Strat</u>
See file #303, Sonic GR	2860-2942'	2860-2942	SAMPLE DESCRP. <u>Farm Cutb</u>
IES, Cement Bond			SAMPLE NO. <u>1357*</u>
			CORE ANALYSIS _____
			DSTs _____
			*Tucson 2042

REMARKS Originally drilled Under Permit 303. This permit to re-enter and test from 2860-2885'. 7-13-67 verbal permission to re-work. New perms. 2885-2942 (New Per. 2860-2942) 7-19-67 Work-over, same reservoir.

APP. TO PLUG _____
PLUGGING REP. _____
COMP. REPORT x
Re-entry 2-2-67

WATER WELL ACCEPTED BY

BOND CO. ~~Firemen's Ins. Co.~~ BIA BOND

BOND NO. ~~188-98-10-528~~

BOND AMT. \$ ~~25,000~~

CANCELLED 12/1/97

DATE 7-14-60
ORGANIZATION REPORT

FILING RECEIPT 9471

LOC. PLAT X

WELL BOOK X PLAT BOOK X

API NO. 02-001-20001 - 1

DATE ISSUED 1-23-67

DEDICATION SW/4 Order 21

PERMIT NUMBER

CONFIDENTIAL

Release Date 7-19-67

(over)

2000

[illegible][illegible][illegible]

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well ☐ Work-Over ☒ Deepen ☐ Plug Back ☐ Same Reservoir ☒ Different Reservoir ☐ Oil ☐ Gas ☐ Dry ☐

DESCRIPTION OF WELL AND LEASE

Operator
Kerr-McGee Corporation

Address
P.O. Box 250, Amarillo, Texas 79106

Federal, State or Indian Lease Number or name of lessor if fee lease
14-20-0603-8823 Navajo

Well Number
1

Field & Reservoir
Dineh-Bi-Keyah

Location
660' FSL & 2000' FWL of

County
Apache

Sec. TWP-Range or Block & Survey
Sec. 32, TWP 36N, R30E

Date spudded
1-22-65

Date total depth reached
2-13-65

Date completed, ready to produce
2-1-67

Elevation (OF, RKB, RT or Gr.)
7,560' GR

Elevation of casing hd. flange
feet

Total depth
3,864

P.B.T.D.
3,050

Single, dual or triple completion?
Single

If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion
2,860'-2,942'

Rotary tools used (Interval)
0 - 3864'

Cable tools used (Interval)

Was this well directionally drilled?
No

Was directional survey made?
No

Was copy of directional survey filed?

Date filed

Type of electrical or other logs run (check logs filed with the commission)
Induction - Electric, Sonic-Gamma Ray

Date filed
Oct. 22, 1965

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	13 3/8"	10 3/4"	40.5	323'	200	None
Production	8 3/4"	7"	20	3,159'	700	None

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
3 1/2 in.	2,975 ft.	None ft.	None in.	None ft.	ft.		

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
4	Jets	2860-2942	90,000 gals Gel & 90,000# 10-20 sand	2860-2942

INITIAL PRODUCTION

Date of first production
1-27-67

Producing method (Indicate if flowing, gas lift or pumping—if pumping, show size & type of pump):
Pumping w/ 1.50" Bore, Rod Pump

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
12-2-74	24	-----	250 bbls.	56.8 MCF	3 bbls.	42.1° API (Corr)

Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
		250 bbls.	56.8 MCF	3 bbls.	227	

Disposition of gas (state whether vented, used for fuel or sold):

Used for fuel, excess is vented

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Engineer of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

12-3-74
Date

RECEIVED

DEC 09 1974

Signature
Andrew Abarr

O & G CONS. COMM.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log

Form No. 4

File One Copy

Permit No. 377
303

(Complete Reverse Side)

**OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION
TO TRANSPORT OIL OR GAS FROM LEASE**

Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8823	Field Dineh-BI-Keyah	Reservoir Hemosa
Survey or Sec-Twp-Rge Sec 29, 30, 31, 32 T-36N-R30E	County Apache	State AZ
Operator Mountain States Petroleum Corp.		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P O Bx 1936	City Roswell,	State New Mexico 88202
Above named operator authorizes (name of transporter)		
Transporter's street address P O Bx 12999	City Scottsdale,	State AZ
Field address P O Bx 256 (Bloomfield Hwy) Farmington, N M 87499		
Oil, condensate, gas well gas, casinghead gas		
To transport	100% of the	oil from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.		
Change of Oper.		

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Secretary of the Mountain States Petro. Corp. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date Aug. 11, 1995

Ruby Wickersham
Signature

Date approved: AUG 16 1995

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rainey

Permit No. 377

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease
File Two Copies

Form No. 8

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE		
Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8823 Navajo	Field Dineh-Bi-Keyah	Reservoir Hermosa
Survey or Sec-Twp-Rge Several - T 36 N, R 30 E	County Apache	State Arizona
Operator Kerr-McGee Corporation		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P. O. Box 250	City Amarillo	State Texas, 79189
Above named operator authorizes (name of transporter) Gary-Williams Energy		
Transporter's street address 370 17th St., Suite 5300	City Denver	State Colorado, 80202
Field address P. O. Box 159, Bloomfield, NM 87413		
Oil, condensate, gas well gas, casinghead gas		
To transport 100 % of the Oil from said lease.		
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.		

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Manager of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date 8/18/92

Signature H.H. Rice H.H. Rice

Date approved: 8-21-92

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rainz

Permit No. _____

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease
File Two Copies
Form No. 5

GAS-OIL RATIO TEST REPORTS

Filed under Oil-Gas Ratio Tests, Dineh-bi-Keyah Field
in cabinet in office of Enforcement Director

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator Kerr-McGee Corporation
 2. Oil Well ☒ GAS WELL ☐ OTHER ☐ (Specify) _____
 3. Well Name Navajo Well No. 1
 Location 660' FSL and 2000' FWL of
 Sec. 32 Twp. 36N Rge. 30E County Apache Arizona.
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8823 Navajo
 5. Field or Pool Name Dineh-Bi-Keyah
 6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:			SUBSEQUENT REPORT OF:		
TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	MONTHLY PROGRESS	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	PERFORATE CASING	<input checked="" type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input checked="" type="checkbox"/>	ABANDONMENT	<input type="checkbox"/>
(OTHER)	<input type="checkbox"/>	(OTHER)	<input checked="" type="checkbox"/>	Reperforating	<input checked="" type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

11-16-74 Pulled rods, pump and tubing. Cleaned out with sand pump to 3,037'
 11-17-74 Acidized perforations from 2,860 - 2,942' with 5000 Gallons of 7 1/2% HCL Acid. Maximum pressure 1100 psi. Average injection rate 10 BPM at 600 psi. Instant Shut In Pressure 0 psi
 11-18-74 Reperforated from 2,885'-2,942' with 2 HPF. Fractured with 90,000 gallons of lease crude and 90,000# of 10-20 sand. Average injection rate 36 BPM. Maximum pressure 3,000 psi. Instant shut down pressure 550 psi.
 11-19-74 Cleaned out sand from 2,960' to 3,037 with sand pump.
 11-20-74 Ran tubing, pump and rods. Started pumping back load oil.
 11-21-74 to
 12-1-74 Recovering load oil. All load oil recovered.
 12-2-74 Well tested 250 BOPD & 3 BWPD, GOR 227.

RECEIVED

DEC 09 1974

O & G CONS. COMM.

8. I hereby certify that the foregoing is true and correct.

Signed Andrew Abarre Title Production Engineer Date 12-3-74

Permit No. (303)
377

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Sundry Notices and Reports On Wells
 Fill Two Copies
 Form No. 25

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator Kerr-McGee Corporation
 2. Oil Well ☒ GAS WELL ☐ OTHER ☐ (Specify) _____
 3. Well Name Navajo No. 1
 Location 660' F&L and 2000' FWL of
 Sec. 32 Twp. 36N Rge. 30E County Apache Arizona.
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8823 Navajo

5. Field or Pool Name Dineh-Bi-Kayah

6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input checked="" type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input checked="" type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>		ABANDONMENT <input type="checkbox"/>
(OTHER) <u>Re-Perforate</u> <input checked="" type="checkbox"/>	(OTHER) _____ <input type="checkbox"/>		

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Pull rods, pump and tubing. Clean out to 3,050' RKB with sand pump. Acidize existing perforations (2,860'-2,942') with 5,000 gallons of 7½% HCL Acid. Reperforate from 2,885'-2,942' with 2 HPF. Fracture with 90,000 gallons of Lease Crude and 90,000# of 10-20 sand. Clean out with sand pump to 3,050' RKB. Run tubing, pump and rods. Place well on production.

Estimated starting date: October 28, 1974

APPROVED

By W.B. Doe

Date 10-21-74

RECEIVED

OCT 16 1974

O & G CONS. COMM.

8. I hereby certify that the foregoing is true and correct.

Signed C.J. Breeden
 C.J. Breeden

Title Dist. Prod. Supt. Date 10-14-74

Permit No. 303/377

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Sundry Notices and Reports On Wells
 Form No. 25

ARIZONA SECONDARY RECOVERY PROGRAM PROPOSED

The Arizona Oil and Gas Conservation Commission will hold a hearing September 19 to consider an application by Kerr-McGee Corp for a secondary recovery program using injection of salt water into the Hermosa formation in Dineh Bi Keyah field, Apache County. The location for the project is in 29 through 33-36n-30e, 5 and 6-35n-30e, and 25 and 36-36n-29e. The field has produced more than 13.7 million bbls of oil, 1.8 billion cu ft of gas and 2.4 million bbls of water. The hearing begins at 10:00 am at the Oil and Gas Conservation Commission office, 8686 North Central Avenue, Suite 106, Phoenix.

8-645
(January 1949)

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
PETROLEUM AND NATURAL GAS BRANCH

Laboratory Laramie, Wyoming Laboratory sample No. PC-67-88
Purpose for obtaining sample analysis

INFORMATION TO BE FORWARDED WITH EACH SAMPLE OF WATER, OIL, OR GAS

Please supply as much as possible of the following information, using this sheet. Please write clearly or print.

Kind of sample (water, oil, or gas) Oil Marks on sample container #7
Field Dineh BiKeyah Farm or lease No. 14-20-0603-8823
Well No. Navajo #1 in the SE1/4 SW1/4 of Section 32 Township 36N
Range 30E County Apache State Arizona
Operator Kerr McGee
Operator's address (main office) _____
Sample obtained by D. L. Stinson Date 7-13-67
Address Box 3395, University Station Representing U. S. Bureau of Mines
Laramie, Wyoming 82070
Sample obtained from (lead line, separator, flow tank, etc.) well head
Date of completion of well Feb. 15, 1967 Elevation of well 7,573 KB
Name of productive zone from which sample is produced Tertiary Syenite igneous sill Sand _____ Shale _____ Lime _____
Formation name Tertiary (Tertiary intrusion into the Pennsylvanian)
Depths: Top of formation 1,305 Bottom of formation 3,127
Top of producing zone 2,860 Bottom of producing zone 2,885
Total depth drilled _____ Present depth 3,056
Well production: Initial Present Casing record:
Oil, barrels per day . . . 634 _____ 7" @ 3,159' ft. w/700 sacks
Water, barrels _____
Gas, cubic feet _____
Pressures: Reservoir _____
Tubing _____
Casing _____ Method of production reda pump
Remarks: 80 PSI

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MAY 10 1974

O & G CONS. COMM.

INT.DUP., D.C. 89289

6-435 b
(April, 1955)

CRUDE PETROLEUM ANALYSIS

377

Bureau of Mines Laramie Laboratory
Sample PC-67-88

IDENTIFICATION

Dineh Bi Keyah field
Tertiary Syenite (an igneous sill)*
2,860-2,885 feet

Arizona
Apache County
SE1/4SW1/4, sec 32,
T 36 N, R 30 E

GENERAL CHARACTERISTICS

Gravity, specific, 0.817 Gravity, ° API, 41.7 Pour point, ° F., below 5
Sulfur, percent, .19 Color, green
Viscosity, Saybolt Universal at 100° F., 35 sec. at 77° F., 37 sec. Nitrogen, percent, 0.031

DISTILLATION, BUREAU OF MINES ROUTINE METHOD

STAGE 1—Distillation at atmospheric pressure, 760 mm. Hg
First drop, 82 ° F.

Fraction No.	Cut temp. ° F.	Percent	Sum, percent	Sp. gr. 60/60° F.	° API, 60° F.	C. I.	Refractive index, n _D at 20° C.	Specific dispersion	S. U. visc., 100° F.	Cloud test, ° F.
1.....	122	3.2	3.2	0.642	88.9					
2.....	167	3.8	7.0	.679	76.9	12	1.38214	127.3		
3.....	212	6.6	13.6	.720	65.0	21	1.39996	128.6		
4.....	257	6.6	20.2	.747	57.9	25	1.31512	136.9		
5.....	302	5.9	26.1	.766	53.2	27	1.42670	141.6		
6.....	347	6.6	32.7	.781	49.7	27	1.43523	146.0		
7.....	392	4.5	37.2	.792	47.2	26	1.44136	143.3		
8.....	437	6.5	43.7	.807	43.8	27	1.44801	142.8		
9.....	482	5.4	49.1	.821	40.9	29	1.45528	147.6		
10.....	527	6.8	55.9	.833	38.4	30	1.46307	145.9		

STAGE 2—Distillation continued at 40 mm. Hg

11.....	392	2.3	58.2	.848	35.4	33	1.47145	150.5	39	5
12.....	437	5.1	63.3	.853	34.4	31	1.47400	145.7	43	25
13.....	482	5.9	69.2	.863	32.5	33	1.47937	150.4	53	40
14.....	527	4.7	73.9	.874	30.4	35			76	60
15.....	572	4.5	78.4	.885	28.4	37			120	90
Residuum.....		18.7	97.1	.923	21.8					

Carbon residue, Conradson: Residuum, 4.7 percent; crude, 1.0 percent.

APPROXIMATE SUMMARY

	Percent	Sp. gr.	° API	Viscosity
Light gasoline.....	13.6	0.690	73.6	
Total gasoline and naphtha.....	37.2	.741	59.5	
Kerosine distillate.....	11.9	.813	42.6	
Gas oil.....	15.4	.844	36.2	
Nonviscous lubricating distillate.....	9.5	.860-.880	33.0-29.3	50-10
Medium lubricating distillate.....	4.4	.880-.891	29.3-27.3	100-20
Viscous lubricating distillate.....				Above 20
Residuum.....	18.7	.923	21.8	
Distillation loss.....	2.9			

U. S. GOVERNMENT PRINTING OFFICE 16-57835-2

*A Tertiary intrusion into Pennsylvanian rock.

377

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1

Page 3 of 10

Field : DINEH BI KEYAH

File 2-4719-FL

DIMENSIONLESS TIME DATA

1972 Date	Elapsed Time Hours	T + dt	$\frac{dt}{T + dt}$	Pressure @ 2918' Psig
7-19-72	0.5	146,562.5	0.00000341	44
"	1.0	146,563.0	0.00000682	50
"	1.5	146,563.5	0.00001023	53
"	2.0	146,564.0	0.00001365	61
"	2.5	146,564.5	0.00001706	69
"	3.0	146,565.0	0.00002047	74
"	3.5	146,565.5	0.00002388	76
"	4.0	146,566.0	0.00002729	76
"	5.0	146,567.0	0.00003411	81
"	6.0	146,568.0	0.00004094	83
"	7.0	146,569.0	0.00004776	84
"	8.0	146,570.0	0.00005458	92
"	10.0	146,572.0	0.00006823	93
"	12.0	146,574.0	0.00008187	94

Cumm.
Rate
T

842,730 Bbls Fluid
138 B/D
146,562 hours

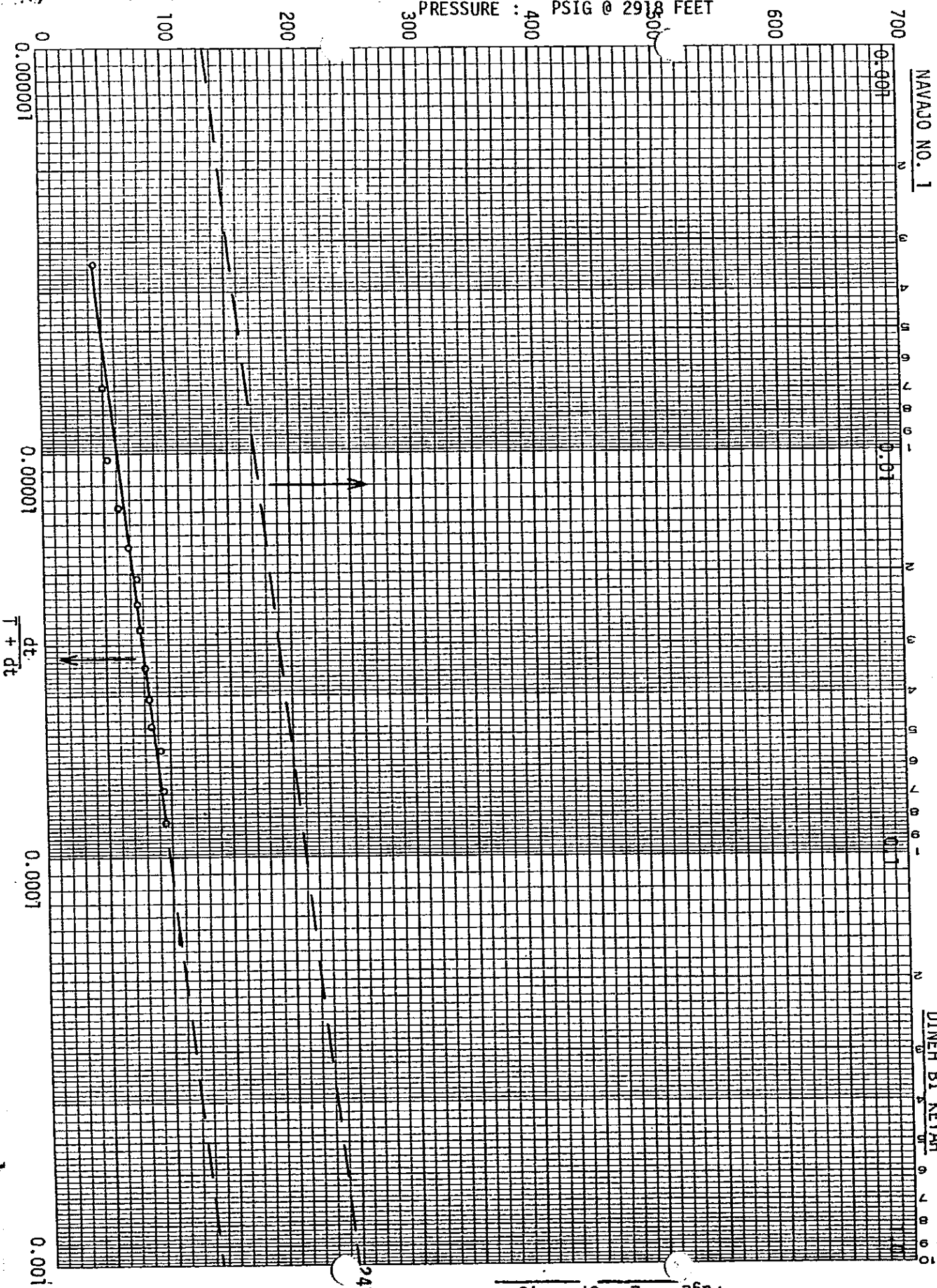
NO. 340R-L310 DIETZEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZEN CO.
MADE IN U. S. A.

NAVAJO NO. 1

DINEH BI KEYAH

PRESSURE : PSIG @ 2918 FEET



TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1
Field : DINEH BI KEYAH

Page 1 of 10
File 2-4719-FL

TEST DATA

Date	Status of Well	Time	Elapsed Time Hrs. Min.	Joints To Fluid	Feet To Fluid	Feet of Fluid To Mid Pay	Oil Column Psi @ .350/Ft.	Gas Column Psi @ .005/Ft.	Casing Pressure Psi	BHP 2918 Psi
7-19	Pumping	07:18	0 00	90.0	2815	103	36	14	0	50
"	"	07:20	0 30	90.5	2831	87	30	14	0	44
"	"	07:50	1 00	90.5	2831	87	30	14	6	50
"	"	08:20	1 30	90.5	2831	87	30	14	9	53
"	"	08:50	2 00	90.0	2815	103	36	14	11	61
"	"	09:30	2 30	89.5	2800	118	41	14	14	69
"	"	09:50	3 00	89.0	2784	134	47	14	15	74
"	"	10:20	3 30	89.0	2784	134	47	14	17	76
"	"	10:50	4 00	89.0	2784	134	47	14	20	81
"	"	11:20	5 00	89.0	2784	134	47	14	22	83
"	"	12:20	6 00	89.0	2784	134	47	14	23	84
"	"	13:20	7 00	88.5	2784	134	47	14	25	92
"	"	14:20	8 00	88.5	2768	150	53	14	26	93
"	"	15:20	10 00	88.5	2768	150	53	14	27	94
"	"	17:20	12 00	88.5	2768	150	53	14		
"	"	19:20								

Average Tubing Length 31.28
Oil Gradient .350 psi per ft.
Gas Gradient .005 psi per ft.

Total Oil Production to test date 823,929 Bbls
Total Water Production to test date 18,801 Bbls

Oil Rate 135 BOPD
Water Rate 3 BWPD

RECEIVED
AUG 09 1972
O & G CONS. COMM.

37

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1 Page 3 of 12
Field : DINEH BI KEYAH File _____

DIMENSIONLESS TIME DATA

1973 Date	Elapsed Time Hours	T + dt	$\frac{dt}{T + dt}$	Pressure @ 2918' Psig
7-12	0.5	183,698.5	0.0000027	50
"	1.0	183,699.0	0.0000054	48
"	1.5	183,699.5	0.0000081	50
"	2.0	183,700.0	0.0000108	51
"	2.5	183,700.5	0.0000136	53
"	3.0	183,701.0	0.0000163	54
"	3.5	183,701.5	0.0000190	56
"	4.0	183,702.0	0.0000217	55
"	5.0	183,703.0	0.0000272	58
"	6.0	183,704.0	0.0000326	60
"	7.0	183,705.0	0.0000381	61
"	8.0	183,706.0	0.0000435	63
"	10.0	183,708.0	0.0000544	66
"	12.0	183,710.0	0.0000653	67

Cumm. 887,875 Bbls Fluid
Rate 116 B/D
T = 183,698

TAB

Summary of Gas Chromatographic, Carbon I

EPR Sample Number	Well Name	Location	Field	Reservoir Age	Producing Interval	Color	Type Sample	C ₄ -C ₇ Hydrocarbon Gas Chromatography Data					C ₁₃ + S. C ₁₅
								Percent Gasoline	Significant Compound Ratios				
									C ₁ /C ₂	A/D ₂	D ₁ /D ₂	C ₁ /D ₂	
53981	Kerr-McGee #1 Navajo	Sec. 32, Twp. 35N, Rge. 3Q East Apache County, Arizona	Dineh Bi Keyah (Cove Anti- cline)	Pennsylvanian	2860'-2885'	Greenish Brown	Wellhead	11.1%	1.83	5.33	2.23	5.50	-28

Table I Continued

Isotope and High Mass Spectrometric Analyses

Isotope Data	C ₁₅ ⁺ Hydrocarbon High Mass Spectrometric Analytical Data																		
C ₁₃ /C ₁₂	Gross Composition of Saturate Fraction							Gross Composition of Aromatic Fraction											
ite C ₁₅ ⁺ Aromatic	Naphthenes							(Percent of Aromatic Compound Groups in Aromatic Fraction)											
	Paraffins	1-Ring	2-Ring	3-Ring	4-Ring	5-Ring	6-Ring	BEN	INDA	INDE	NAP	THPH	DHPH	PHEN	PYR	CHRY	BTH	DBTH	TZPH
-28.54	34.3%	31.9%	14.6%	8.8%	6.5%	3.1%	0.9%	15.6%	7.3%	7.8%	2.3%	11.1%	22.7%	17.2%	2.2%	2.7%	2.6%	7.8%	0.8%

377

JMS

327

327 916

APPENDIX A

C₄-C₇ Hydrocarbon Gas Chromatographic Analytical Data

EPR Sample #53981 - *Dineh-bi Keyah*
Crude oil.

	TOTAL PERCENT	NORM PERCENT		TOTAL PERCENT	NORM PERCENT
METHANE	3.000		CHEX	0.947	5.05
ETHANE	0.031		33-DMP	0.020	0.11
PROPANE	0.302		11-DMCP	0.674	3.60
IBUTANE	0.299	1.59	2-MHEX	0.000	0.00
NBUTANE	0.957	5.11	23-DMP	0.388	2.07
IPENTANE	1.155	6.18	3-MHEX	0.761	4.06
NPENTANE	1.422	7.59	1C3-DMCP	0.254	1.36
22-DMB	0.053	0.28	1T3-DMCP	0.261	1.39
CPENTANE	0.152	0.81	1T2-DMCP	0.037	0.20
23-DMB	0.122	0.66	3-EPENT	0.000	0.00
2-MP	1.209	6.45	224-TMP	0.000	0.00
3-MP	0.716	3.82	NHEPTANE	1.855	9.90
NHEXANE	1.813	9.67	1C2-DMCP	0.087	0.46
MCP	0.901	4.81	MCH	1.940	10.35
22-DMP	0.000	0.00	ECP	0.176	0.94
24-DMP	0.122	0.65	BENZENE	0.959	5.12
223-TMB	0.000	0.00	TOLUENE	1.453	7.76

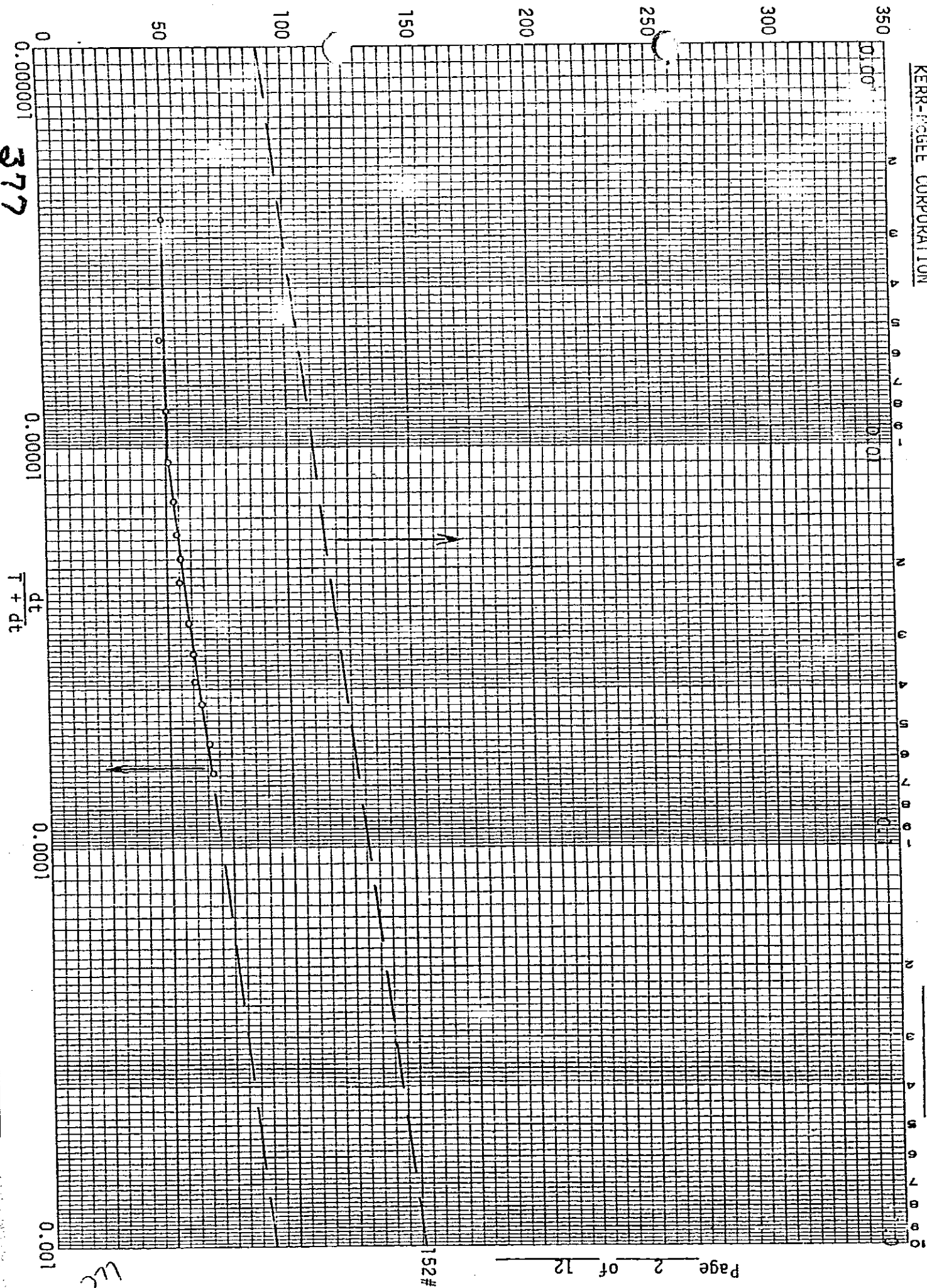
	TOTALS		SIG COMP RATIOS
ALL COMP	19.072	C1/C2	2.32
GASOLINE	18.739	A /O2	4.82
		D1/O2	3.17
		C1/O2	4.70

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SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZEN CO.
MADE IN U. S. A.

NAVAJO NO. 1

KERR-MCGEE CORPORATION



377

LC

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1

Page 1 of 12

Field : DINEH BI KEYAH

File 2-5185-FL

TEST DATA

1973 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Joints To Fluid	Feet To Fluid	Feet Of Fluid To Mid Pay	Oil Column Psi @ .350/Ft.	Gas Column Psi @ .005/Ft.	Casing Pressure Psig	Pressure Psig
7-12	Pumping	07:30	0 00	91.75	2870	48	17	14	0	31
"	Shut in	07:30	0 30	90.75	2839	79	28	14	8	50
"	"	08:00	1 00	91.0	2846	72	25	14	9	48
"	"	08:30	1 30	91.0	2846	72	25	14	11	50
"	"	09:00	2 00	91.0	2846	72	25	14	12	51
"	"	09:30	2 30	91.0	2846	72	25	14	14	53
"	"	10:00	3 00	91.0	2846	72	25	14	15	54
"	"	10:30	3 30	91.0	2846	72	25	14	17	56
"	"	11:00	4 00	91.0	2846	72	25	14	16	55
"	"	11:30	5 00	91.0	2846	72	25	14	19	58
"	"	12:30	6 00	91.0	2846	72	25	14	21	60
"	"	13:30	7 00	91.0	2846	72	25	14	22	61
"	"	14:30	8 00	91.0	2846	72	25	14	24	63
"	"	15:30	9 00	91.0	2846	72	25	14	27	66
"	"	17:30	10 00	91.0	2846	72	25	14	28	67
"	"	19:30	12 00	91.0	2846	72	25	14		

Average Tubing Length 31.28
Oil Gradient .350 psi per ft.
Gas Gradient .005 psi per ft.

Total Oil Production to Test Date 867,351 Bbls
Total Water Production to Test Date 20,524 Bbls

Daily Rate 113 BOPD
Daily Rate 3 BOPD

317

DINEH-BI-KEYAH

BHP Data 1973

① Pressures calculated at 2,918', datum of +4500' is at 3,073'. Difference is 155' at 0.35 PSI/ft or 54 PSI

$$152 + 54 = 206 \text{ PSI at Datum}$$

#2 Pressures calculated at 3,087', datum of +4500' is at 3,095'. Difference is 8' at 0.35 PSI/ft or 3 PSI

$$73 + 3 = 76 \text{ PSI at Datum}$$

#9 Pressures calculated at 3,440', datum of +4500' is at 3,378'. Difference is -62' at 0.35 PSI/ft or -22 PSI

$$116 - 22 = 94 \text{ PSI at Datum}$$

#138
-1 Pressures calculated at 3,451', datum of +4500' is at 3,766'. Difference is 315' at 0.35 PSI/ft or 110 PSI

$$183 + 110 = 293 \text{ PSI at Datum}$$

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O & G CONS. COMM.

RESERVOIR PRESSURE REPORT

Operator Kerr-McGee Corporation		Address P. O. Box 250, Amarillo, Texas 79105		Date 8-6-73
Field Dineh-bi-Keyah		County Apache		
Producing Formation Hermosa	Oil Gradient 0.350	Water Gradient ---	Initial Completion ---	Special ---
		General Survey X	Datum Plane +4500	Gas Gravity 0.005

Well Name	Pressure at Depth	Date Tested	Shut-In Pressure	Bomb Test Data		Sonic Instrument Test Data				Pressure at Datum *
				Test Depth	B.H. Temp.	Observed Pressure	Prod. Test (Bbls per Day)	Liquid Level	Liquid Gradient	
							Oil	Water		
Navajo	377	1 0 7-12-73	12				113	3		206
Navajo	379	2 0 7-12-73	12				450	61		76
Navajo	396	9 0 7-12-73	12				190	64		94
Navajo Tract 138	388	1 0 7-10-73	12				110	15		293

* pressures taken from extrapolations of bottom hole pressure build-ups in accordance with method set forth by D. R. Horner (see attached data.)

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* Designate type of report by "X".

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Prod. Supt. of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

August 6, 1973
Date

377

C. J. Breeden
Signature
C. J. Breeden

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Reservoir Pressure Report

File One Copy

Form No. 7

INSTRUCTIONS FOR RUNNING AND REPORTING BOTTOM HOLE PRESSURES

This report shall be mailed not later than the 15th day of the month immediately following the month in which the tests were made. All bottom hole pressure tests reported herein shall be made by a person qualified by both training and experience to make such tests.

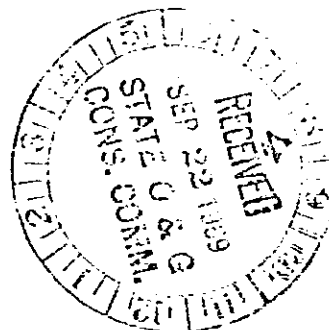
1. Oil gradient shall be in pounds per square inch per foot.
2. Water gradient shall be in pounds per square inch per foot.
3. Datum plane shall be in feet plus or minus sea level.
4. Gas gravity shall be determined from an analysis of the casinghead gas.
5. Date Tested—Enter in this column the month and day on which the bottom hole pressure test was made.
6. Shut-in Time—Shall be reported accurately to nearest hour. The well tested shall have produced its normal daily rate of production or allowable within the 24-hour period immediately preceding the time at which it was shut in. (Any deviations shall be certified to on this report)
7. Test Depth—Shall be reported in feet as the lowest point to which the bomb was run and shall be reported in feet plus or minus sea level.
8. Bottom Hole Temperature—Shall be reported in degrees Fahrenheit as determined at test depth by either a recording or maximum reading thermometer.
9. Observed Pressure—Shall be reported as the pressure in pounds per square inch gauge observed at test depth before any necessary temperature correction has been made.
10. Production Test—The oil and water reported shall be from a representative production test immediately preceding the time at which the well was shut in.
11. Fluid Level—The fluid level reported shall be in feet above the datum plane.
12. Fluid Gradient—Shall be in pounds per square inch per foot and shall be representative of both the oil and water gradient where the well produces water as well as oil.
13. Weight of Oil Column shall be in pounds per square inch.
14. Weight of Gas Column shall be in pounds per square inch.
15. Casing Pressure—Shall be reported as the pressure in pounds per square inch gauge.
16. Datum Pressure—
 - (a) In the case of bomb measurements, this pressure shall be the observed pressure after the corrections for reservoir temperature and for the difference between test depth and datum plane have been made.
 - (b) In the case of sonic measurements, this pressure shall be determined from the weight of the fluid column plus the weight of any gas present above the fluid column plus casinghead pressure after proper corrections are made for temperature.

Calibration—The subsurface pressure instrument shall be calibrated against a dead weight tester both prior and subsequent to the dates at which all tests reported hereon are made, and in no case shall this time exceed a period of one month. The prior and subsequent calibrations shall not disagree by more than one per cent (1%). The dead-weight tester used for the calibration shall be approved by the State of Arizona Oil & Gas Conservation Commission.



September 19, 1969

Mr. John Bannister
Oil and Gas Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona



Kerr-McGee Navajo No. 11
Interference Test Data

This will transmit the following data for your information:

- 74
1. Twelve-hour shut-in pressure build-up tests on the Navajo No's 1, 2, 3X, 4 and 9 - two copies each well.
 2. Arizona Form 7 with SIP's calculated for each of the above wells - two copies.
 3. No. 11 stabilized pressure survey conducted by Tefteller, Inc. prior to the shut-in of Well No's 1, 2, 3X and 4 - two copies.
 4. Pressure surveys 1 through 4 conducted by Sperry-Sun reflecting the bottom-hole pressure in the Navajo No. 11 during the interference test - one copy each.

The subject test was conducted in August, 1969, utilizing the Navajo No. 11 to monitor reservoir pressure and the No's 1, 2, 3X and 4 to initiate a drawdown signal as offsetting producers. A schedule of events is as follows:

TEST SCHEDULE

August 9, 1969 (Saturday)

- 6:00 AM - Recovered No. 11 load and shut-in well
- 9:30 AM - Rods out of No. 11
- 10:30 AM - Amerada Pressure Bomb on bottom to record 24 hours of stabilized pressure.

August 10, 1969 (Sunday)

- 12:15 PM - Amerada Bomb out of hole
Pressure stable @ 132 psig @ 2845' (+4561) throughout entire 25-3/4 hour period.
- 12:45 PM - Amerada Bomb on bottom
- 1:40 PM - Shut-in Navajo No's 1, 2, 3X and 4.
Conduct 12-hour shut-in pressure build-up tests.
- 5:55 PM - Amerada Bomb out of hole
- 6:35 PM - Sperry-Sun Pressure Gauge on bottom @ 2845' (+4561)

377

John Bannister
September 19, 1969
Page 2

August 11, 1969 (Monday)

1:40 AM - Turn on Navajo No. 4
1:40 PM - Turn on Navajo No. 3X

August 12, 1969 (Tuesday)

1:40 AM - Turn on Navajo No. 2
1:40 PM - Turn on Navajo No. 1

August 14, 1969 (Thursday)

6:30 AM - Pulled Sperry-Sun Pressure Gauge - End Run No. 1
8:10 AM - Sperry-Sun Gauge on bottom

August 15, 1969 (Friday)

9:00 PM - Pulled Sperry-Sun Gauge - End Run No. 2
10:30 PM - Sperry-Sun Gauge on bottom

August 17, 1969 (Sunday)

2:50 PM - Pulled Sperry-Sun Gauge - End Run No. 3
4:30 PM - Sperry-Sun Gauge on bottom

August 18, 1969 (Monday)

2:00 PM - Pulled Sperry-Sun Gauge 192-1/3 hours after
official test began (192 hours required) with
the shutting-in of Navajo No's 1, 2, 3X and 4.
Shut-in Navajo No. 9 to conduct 12-hour shut-in
pressure build-up test. Start official potential
test on Navajo No. 11.

August 19, 1969 (Tuesday)

2:00 AM - Turn on Navajo No. 9

Except for minor fluctuations where bottom-hole conditions were interrupted by pulling and re-running the pressure gauge, only one interference point was noted on the Sperry-Sun data. At approximately 5:10 AM on August 12, 1969, an inflection point, although quite subtle, occurred on the Navajo No. 11 bottom-hole pressure plot. This occurrence was 34-1/2 hours after the Sperry-Sun

John Bannister
September 19, 1969
Page 3

instrument reached bottom on the first run and 27-1/2 hours after the Navajo No. 4 had been returned to production. Based on radial flow calculations, which may not be applicable to this type of reservoir, this drawdown would be caused by the Navajo No. 4. We could not identify from this data any other well which may have contributed to interference with Well No. 11. It is probable that a critical examination of future individual well performance may provide the best information to evaluate the effects of Well No. 11.

As you will note, shut-in pressure build-up tests are reported on more wells than are required by Order No. 24. Kerr-McGee desired to have this additional information, and it is also reported for the information of the Commission

Sincerely yours,

KERR-McGEE CORPORATION


Bill P. Stauss
Production Division

BPS:md
Enclosures

cc: Humble Oil & Refining Company

August 15, 1969

Memo to Kerr-McGee #11 Navajo 8832
T36N, R30E, G & SRM
Sec. 32: NW/4 SE/4
Apache County
Permit #506 X

Memo From J. Scurlock

On Thursday, August 14, at 6:30 a.m. I accompanied Mr. Bill Stauss and Red Walsh to the Kerr-McGee #11 well in order to witness the recovery of the Sperry-Sun pressure instrument which had been in the hole for 84 hours; that is, since Sunday at 1:40 p.m. The recovered instrument; which is an extremely sensitive pressure measuring device, showed that at the beginning of the test the pressure reading was 134.26 pounds and that during the course of the first 46 to 48 hours of the test the pressure gradually built up to about 135.54 pounds and that after this initial 46 to 48 hours and for the remainder of the 84-hour testing period the pressure declined to a final reading of 134.97 pounds. This is to say that a field reading indicated a deflection in the curve after a 46 to 48 hour period during which time the #1, 2, 3X, and 4 wells were shut in.

377 377 380 237

At this time it is assumed that this deflection represents the effect from well #4 which was put back on production at 1:40 a.m. Monday morning after a 12-hour shut in. Mr. Stauss had calculated that a deflection point from this well would be seen after 46 hours and so we were very gratified to see that the actual test data bore out his calculation.

The meaning of this series of tests is that we are now sure that the #11 well has good avenues of communication with the rest of the field and this determination primarily was the reason for the tests. The remaining tests will show deflection points on the curve as the effect from wells 3X, 2, and 1 are felt now that they have been placed back on production. This further testing is for the purpose of indicating the direction of the avenues of communication between the #11 well and these other four wells. In other words, we hope to be able to determine the nature of the fracture system within the reservoir and just which other wells may be in close communication with the #11 well.

377

377

Page 2

Memo to File #506
August 15, 1969

The Sperry-Sun bomb will be pulled again tonight at 11:30 p.m. and again on Sunday afternoon at about 3:00 or 4:00 p.m. and then again for the final time on Monday afternoon, August 18, at 1:40 p.m. which time will end the 182-hour testing period.

I would presume that as a result of this series of tests that Kerr-McGee will not wish to drill anymore inside locations nor wish to change the spacing pattern in the field because it is obvious that the established spacing is providing adequate drainage.

RESERVOIR PRESSURE REPORT

Operator Kerr-McGee Corporation		Address P. O. Box 250, Amarillo, Texas 79105		Date 8/3/71
Field Dineh-bi-Keyah		County Apache	General Survey XX	Gas Gravity
Producing Formation Hermosa	Oil Gradient .350	Initial Completion Special	Datum Plane +4500'	

Well Name	Perforation No.	Well No.	Oil Gas (O) (%)	Date Tested	Shut-In Tubing Pressure	Test Depth	B.H. Temp.	Observed Pressure	Prod. Test (Bbls per Day)	Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column	Casing Pressure	At Datum
									Oil	Water					
Navajo	377	1	0	7-6-71	12				185	6					349
Navajo	379	2	0	7-6-71	12				160	36					11
Navajo	396	9	0	7-6-71	12				228	85					70

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*Pressures taken from extrapolations of bottom hole pressure build-ups in accordance with method set forth by D. R. Horner (See attached data).

*Pressures taken from extrapolations of bottom hole pressure build-ups in accordance with method set forth by D. R. Horner (See attached data).

Designate type of report by "x".

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the District Manager of the Kerr-McGee Corporation, and that I am authorized by said company to make this report, and this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Reservoir Pressure Report

Form No. 7

Signature **C. D. Williams**

Date **8/3/71**

377

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1

Page 3 of 9

Field : DINEH BI KEYAH

File 2-4306-FL

DIMENSIONLESS TIME DATA

Date	Elapsed Time Hours	T + dt	$\frac{dt}{T + dt}$	Pressure @ 2918' Psig
7-6-71	0.5	98,322.5	0.0000051	56
"	1.0	98,323.0	0.0000102	68
"	1.5	98,323.5	0.0000153	72
"	2.0	98,324.0	0.0000203	81
"	2.5	98,324.5	0.0000254	89
"	3.0	98,325.0	0.0000305	96
"	3.5	98,325.5	0.0000356	98
"	4.0	98,326.0	0.0000407	98
"	5.0	98,327.0	0.0000509	100
"	6.0	98,328.0	0.0000610	100
"	7.0	98,329.0	0.0000712	107
"	8.0	98,330.0	0.0000814	112
"	10.0	98,332.0	0.0001017	115
"	12.0	98,334.0	0.0001220	117

Cumm. 782,481 BBLS Fluid
Rate 191 B/D
T = 98,322

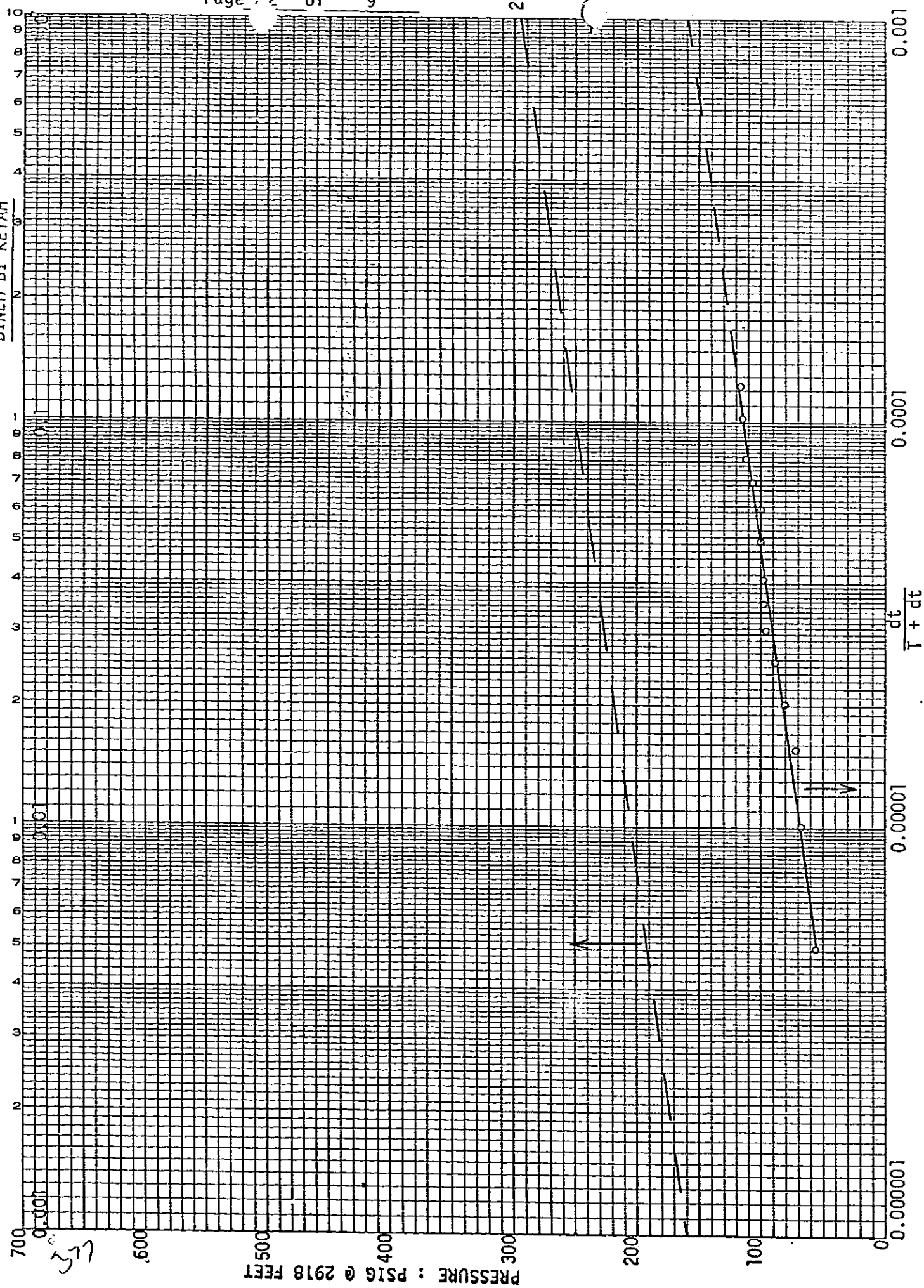
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ND. 340R-L310 DIETZGEN GRAPH PAPER
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NAVAJO NO. 1

DINEH BI KEYAH



TEFFELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : NAVAJO NO. 1

Field : DINEH BI KEVAH

Page 1 of 9

File 2-4306-FL

TEST DATA

1971 Date	Status of Well	Time	Elapsed Time Hrs.Min.	Joints To Fluid	Feet To Fluid	Feet Of Fluid To Mid Pay	Oil Column Psi @ .350/FT	Gas Column Psi @ .005/FT	Casing Pressure Psig	BHP 2918
7-6	Pumping	08:30	0 00	90.0	2815	103	36	0	0	36
7-6	Shut in	09:00	0 30	90.0	2815	103	36	14	6	56
7-6	"	09:30	1 00	89.5	2800	118	41	14	13	68
7-6	"	10:00	1 30	89.5	2800	118	41	14	17	72
7-6	"	10:30	2 00	89.0	2784	134	47	14	20	81
7-6	"	11:00	2 30	88.5	2768	150	53	14	22	89
7-6	"	11:30	3 00	88.0	2753	165	58	14	24	96
7-6	"	12:00	3 30	88.0	2753	165	58	14	26	98
7-6	"	12:30	4 00	88.0	2753	165	58	14	26	98
7-6	"	13:00	5 00	88.0	2753	165	58	14	28	100
7-6	"	14:00	6 00	88.0	2753	165	58	14	28	100
7-6	"	15:00	7 00	87.5	2737	181	63	14	30	107
7-6	"	16:00	8 00	87.5	2737	181	63	14	35	112
7-6	"	17:00	10 00	87.5	2737	181	63	14	38	115
7-6	"	19:00	12 00	87.5	2737	181	63	14	40	117

Average Tubing Length 31.28' Oil Gradient .350 Psi per foot
Gas Gradient .005 Psi per foot

Total Oil Production to Test Date 766,461 bbls.
Total Water Production to Test Date 16,020 bbls.

Oil Rate 185 B/D
Water Rate 6 B/D

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O & G CONS. COMM.

RESERVOIR PRESSURE REPORT

Operator Kerr-McGee Corporation		Address P. O. Box 250, Amarillo, Texas 79105		Date 8-4-72
Field Dineh-bi-Keyah		County Apache		
Producing Formation Hermosa	Oil Gradient 0.350	Water Gradient ---	Initial Completion ---	Special ---
		General Survey X	Datum Plane +4500	Gas Gravity 0.005

Well Name	Per No.	Well No.	Oil Gas (G)	Date Tested	Shut-In Time	Shut-In Tubing Pressure	Test Depth	B.H. Temp.	Observed Pressure	Prod. Test (Bbls per Day)	Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column	Casing Pressure	At Datum
Navajo	377	1	0	7-19	12					Oil 135 Water 3						301
Navajo	379	2	0	7-19	12					61 12						286
Navajo	396	9	0	7-19	12					298 62						

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in accordance

build-ups

*Pressures taken from extrapolations of bottom hole pressure with method set forth by D. R. Horner (See attached data).

*pressures taken from extrapolations of bottom hole pressure build-ups with method set forth by D. R. Horner (See attached data).

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O & G CONS. COMM.
in accordance

<p>Designate type of report by "x".</p> <p>CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the District Engineer of the Kerr-McGee Corporation, and that I am authorized by said company to make this report; and this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.</p> <p>8-4-72 Date</p> <p>377</p> <p>Signature</p>	<p>STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION</p> <p>Reservoir Pressure Report File One Copy</p> <p>Form No. 7</p>
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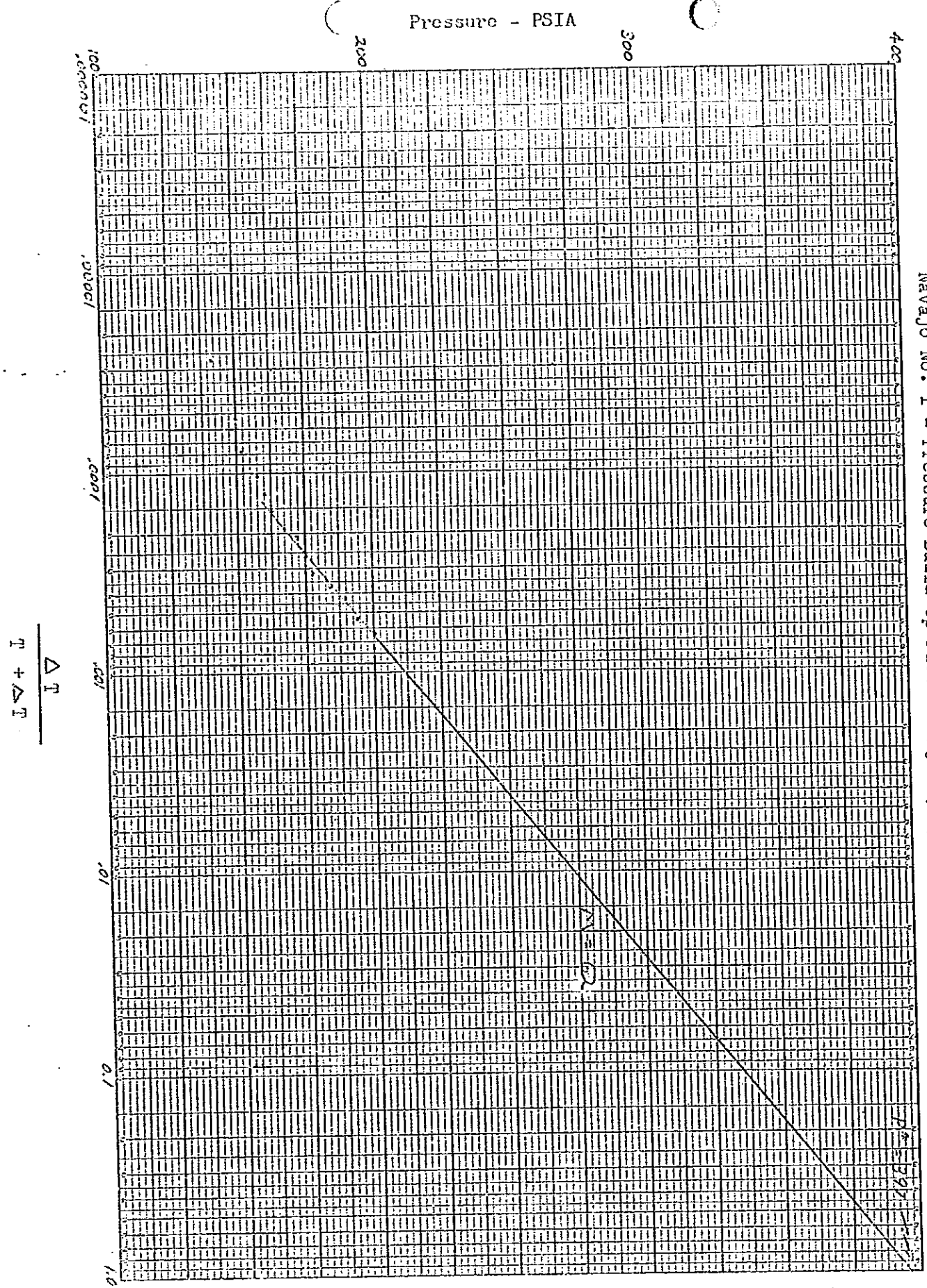
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NO. 32,220. 20 DIVISIONS PER INCH (120 DIVISIONS) BY SIX CYCLES RATIO RULING.



CODER BOOK COMPANY, INC., NORWOOD, MASSACHUSETTS.
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Navajo No. 1 - Pressure Build-Up Plot - July 12, 1968 - 44500' Datum





PRESSURE BUILD-UP TEST

NAVADO NO. 1

Test Date: 7/12/68

Dimensionless Pressure Drawdown, $p(t_{De})$

$$p(t_{De}) = \frac{M}{2.303 (P_1 - P^*)}$$

Where: $p(t_{De})$ = dimensionless pressure drawdown at exterior boundary of drainage system.

P_1 = initial static pressure in drainage system or reservoir = 729 psia

P^* = pressure at exterior boundary determined by extrapolating straight line slope of build-up plot to infinite shut-in time = 397 psia (plot attached)

M = straight line slope of build-up plot, pounds per square inch per cycle = 62 (plot attached)

$$p(t_{De}) = \frac{62}{2.303(729 - 397)} = 12.33$$

Dimensionless Producing Time, t_{De}

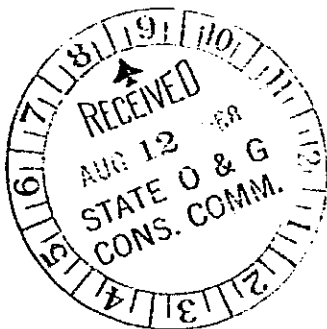
The dimensionless producing time is determined to be 3.95 from a plot of $p(t_{De})$ versus t_{De} (refer to Case No. 26 hearing exhibits for example of this plot).

Average Static Pressure, \bar{P}

$$\bar{P} = P_1 - 1.737 M t_{De}$$

Where \bar{P} = average static pressure of the drainage system

$$\bar{P} = 729 - 1.737 (62) (3.95) = 304 \text{ psia}$$



377

PRESSURE BUILD-UP TEST

CALCULATION SHEET

NAVAJO NO. 1

Test Date: 7/12/68

Dimensionless Pressure Drawdown, $p(t_{De})$

$$p(t_{De}) = \frac{2.303 (P_i - P^*)}{M}$$

Where: $p(t_{De})$ = dimensionless pressure drawdown at exterior boundary of drainage system.

P_i = initial static pressure in drainage system or reservoir = 729 psia

P^* = pressure at exterior boundary determined by extrapolating straight line slope of build-up plot to infinite shut-in time = 397 psia (plot attached)

M = straight line slope of build-up plot, pounds per square inch per cycle = 62 (plot attached)

$$p(t_{De}) = \frac{2.303(729 - 397)}{62} = 12.33$$

Dimensionless Producing Time, t_{De}

The dimensionless producing time is determined to be 3.95 from a plot of $p(t_{De})$ versus t_{De} (refer to Case No. 26 hearing exhibits for example of this plot).

Average Static Pressure, \bar{P}

$$\bar{P} = P_i - 1.737 M t_{De}$$

Where \bar{P} = average static pressure of the drainage system

$$\bar{P} = 729 - 1.737 (62) (3.95) = \underline{304 \text{ psia}}$$



377

X. Chano
~~XXXXXXXXXX~~

August 11, 1969

Memo to Kerr-McGee #11 Navajo 8832
NW/4 SE/4 Section 32-T36N-R30E
Apache County
Permit #506 +

From J. Scurlock

Telephone conversation at 4:00 p.m. this date with Bill Stauss, Kerr-McGee, concerning the Kerr-McGee #11 Navajo well. Mr. Stauss indicated that the #11 well had recovered all of the load oil (by beam pump) plus about 15 barrels of crude oil. On Sunday at 6:30 p.m. the Amerada ~~pump~~^{beam} was placed in the well for 84 hours and recovered from the well at 6:30 a.m. Thursday morning.

377 379 386 384
Bill reports that the #1, 2, 3X, and 4 wells were shut in at 1:40 p.m. Sunday. The #4 well now has been put back on production as of this morning at 1:40 a.m. The #3X well resumed production this afternoon at 1:40 p.m. (after 24 hours shut in). The #2 well will resume production tomorrow at 1:40 p.m. and the #1 well will resume production tomorrow at 1:40 p.m. (after 48 hours shut in).

Mr. Bannister has directed Red Walsh and Geologist Scurlock to be present at 6:30 Thursday morning in order to witness the recovery of the Amerada ~~pump~~^{beam} and its replacement with the Sperry-Sun instrument.

The #11 well appears to have fair communications with at least one neighboring well inasmuch as the shut-in pressure has been shown to be low; that is, on the order of 128 to 130 pounds. The well was initially shut in with the Amerada pump on Saturday morning and left shut in for a period of 26 hours.

RESERVOIR PRESSURE REPORT

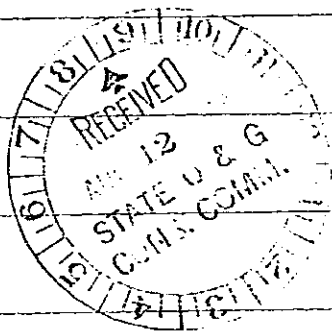
Operator Kerr-McGee Corporation		Address 215 Petroleum Center Building, Farmington, New Mexico 87401	
Field Dinebaibi-Keyah	County Apache	Date 8-9-68	
Producing Formation HORMOSA	Initial Completion*	General Survey*	Gas Gravity
		X	
	Water Gradient	Datum Plane	
		+4500'	

Well Name	Permit No.	Well No.	Oil Gas or (O) (G)	Date Tested	Shut-in Pressure	Bomb Test Data			Sonic Instrument Test Data				Pressure At Datum *	
						Test Depth	B.H. Temp.	Observed Pressure	Prod. Test (Bbls per Day)	Liquid Level	Liquid Gradient	Wt. of Liquid Column		Wt. of Gas Column
Navajo	377	1	0	7-12-68	12	4703		120 psig						304 psia
Navajo	379	2	0	7-12-68	12	4573		200						236
Navajo	386	3K	0	7-12-68	12	4595		192						260
Navajo	389	7	0	7-12-68	12	4395		114						191
Navajo	396	9	0	7-12-68	12	4457		88						160
Navajo "B"	445	1X	0	7-12-68	12	4703		230						474

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COLUMBIA, MISSOURI

*pressures taken from extrapolations of bottom hole pressure build-ups in accordance with method set forth by Mr. D. R. Horner (see attached data).

* Pressures taken from extrapolations of bottom hole pressure build-ups in accordance with method set forth by Mr. D. R. Horner (see attached data).



* Designate type of report by "x".

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Supt. of the Kerr-McGee Corporation, and that I am authorized to make this report, and that the facts stated herein are true, correct and complete to the best of my knowledge.

August 9, 1968
Date

Signature C D Williams

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Reservoir Pressure Report
Form No. 7
File One Copy



July 27, 1967

Mr. John Bannister
State of Arizona
Oil & Gas Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Mr. Henry F. Pohlmann
Minerals Supervisor
The Navajo Tribe
412 Petroleum Plaza Building
3535 E. 30th Street
Farmington, New Mexico 87401

Mr. John P. Anderson
United States Geological Survey
Oil & Gas Division
P. O. Drawer 1857
Roswell, New Mexico 88201

Mr. P. T. McGrath
United States Geological Survey
Oil & Gas Division
P. O. Box 959
Farmington, New Mexico

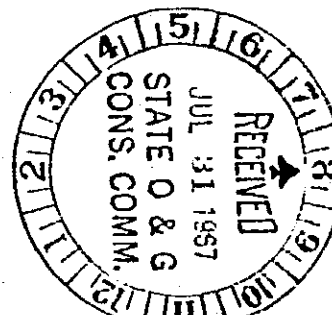
IGNEOUS SILL RESERVOIR
DINEH BI KEYAH FIELD

Please find enclosed additional pressure information which we have acquired during the initial productive life of the subject reservoir.

Attachment No. 1 contains all of the shut-in pressure data which we have on wells which are presently producing. This data includes both original and subsequent shut-in pressures taken after each well's completion. Subsurface pressure bombs have been run on six of the nine wells which are presently producing. A data sheet and pressure plot was made for each bomb run by the technician in charge of the survey. This correspondence on four of the six wells (Nos. 2, 4, 7, 9, 14 and 15) on which this survey was conducted is also attached. The data sheets have not been received from the field on Nos. 4 and 15; however, the pressures recorded in these wells have been presented.

Attachment No. 2 contains shut-in pressure buildup data on five producing wells (Nos. 1, 2, 3X, 7 and 9). Please note the rapid pressure buildup characteristics of each well. In an effort to gain as much factual data and knowledge from this reservoir as possible; we are considering gathering additional pressure data.

Utilizing production history and pressure data the indicated producing mechanism at this time is probably solution gas drive.



311

July 27, 1967
Page -2-

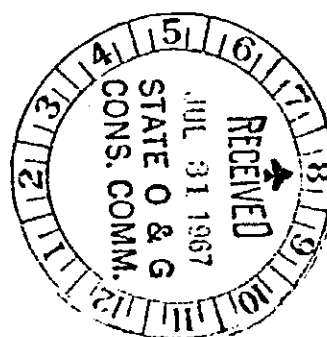
We hope this data will be beneficial to your consideration of
this reservoir.

KERR-McGEE CORPORATION


John I. Fisher
Regional Production Manager

JIF/bes
attachments

cc: C. D. Williams



377

PRESSURE BUILD-UP TEST

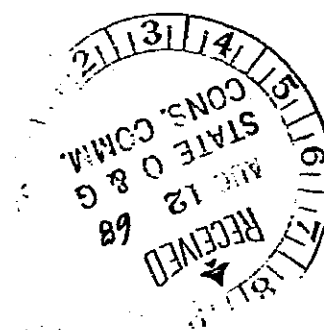
DATA SHEET

NAVAJO NO. 1

Test Date: July 12, 1968
 Producing Rate when shut-in: 420 BPD
 Producing Pressure when shut-in: 48 psig @ +4703'
 Producing Pressure corrected to +4500' Datum: 128 psia
 Cumulative Production to test date: 329,207 bbls
 Producing Time (T): 18,812 hours

Time	Shut-In Time		Recorded Press. (PSIG)	Corrected Press. @ +4500' (PSIA)	$\frac{\Delta T}{T + \Delta T}$
	Min.	Hrs.			
8:00 AM	0	0.0	48	128	0
8:30 "	30	0.5	62	142	.0000266
9:00 "	60	1.0	70	150	.0000532
9:30 "	90	1.5	72	152	.0000797
10:00 "	120	2.0	78	158	.0001063
10:30 "	150	2.5	80	160	.0001329
11:00 "	180	3.0	86	166	.0001594
11:30 "	210	3.5	88	168	.0001860
12:00 Noon	240	4.0	92	172	.0002126
1:00 PM	300	5.0	96	176	.0002657
2:00 "	360	6.0	98	178	.0003188
3:00 "	420	7.0	104	184	.0003720
4:00 "	480	8.0	110	190	.0004251
6:00 "	600	10.0	114	194	.0005313
8:00 "	720	12.0	120	200	.0006375

377

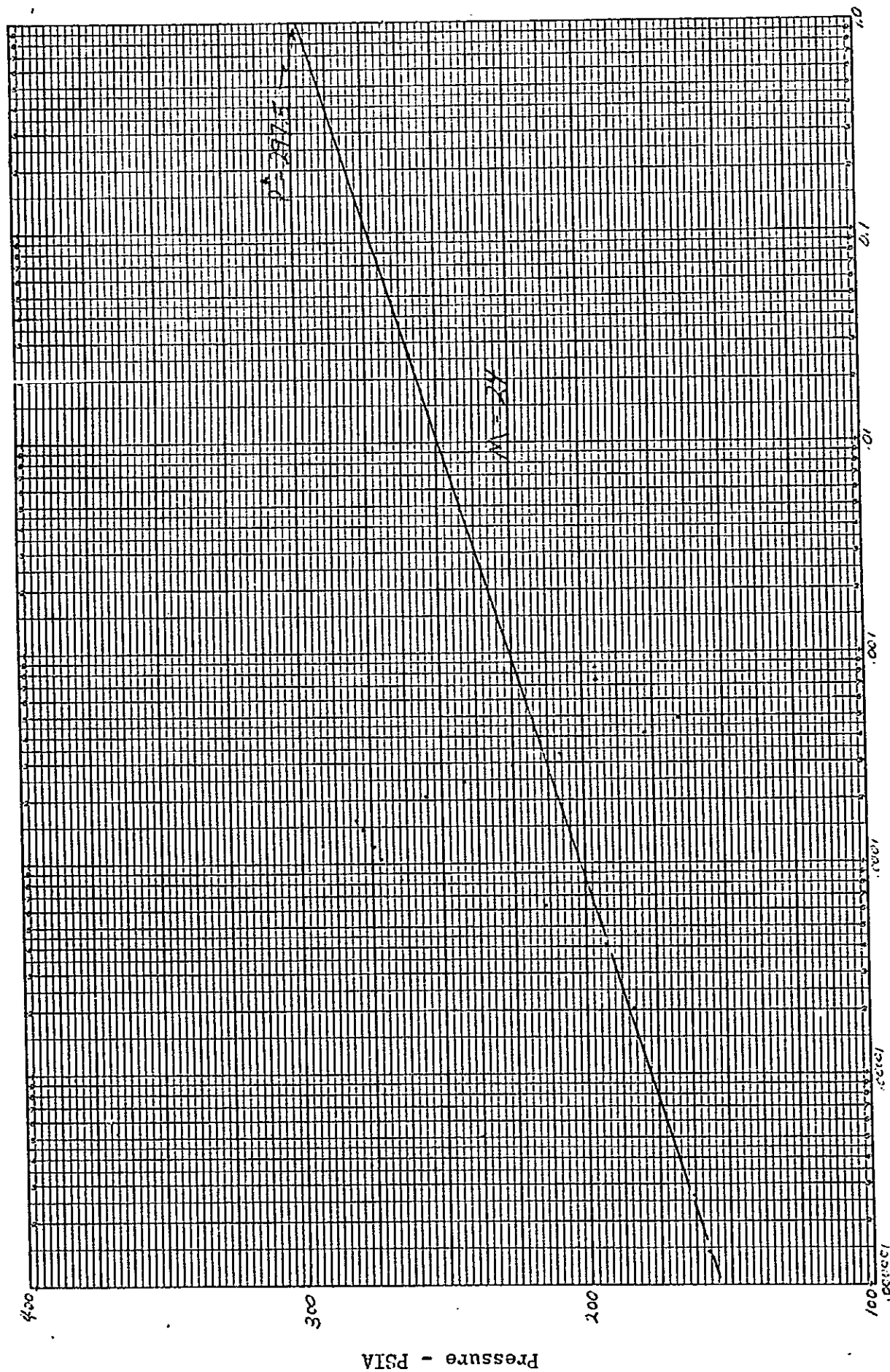


NO. 32,228, 20 DIVISIONS PER INCH (120 DIVISIONS) BY SIX CYCLES RATIO RULING.



CODEx BOOK COMPANY, INC., NORWOOD, MASSACHUSETTS.
PRINTED IN U.S.A.

Navajo No. 1. Pressure Build-Up Plot - August 10, 1969 - +4500' Datum



PRESSURE BUILD-UP TEST

NAVAJO NO. 1

DATA SHEET

Test Date: 8-10-69

Producing Rate when shut-in: 505 BPD (491 BOPD)

Producing Pressure when shut-in: 109 psig at 2918' (+4655 - Mid Pay)

Producing Pressure corrected to +4500' Datum: 174 psia

Cumulative Production to test date: 498,387 bbls

Producing Time (T): 24,360 hours

Time	Shut-In Time		Mid-Pay Press (PSIG)	Corrected Press @ +4500' (PSIA)	ΔT
	Min.	Hrs.			T + ΔT
1:40 PM	0	0.0	109	174	0
1:42 "	2	0.0334	93	158	.0000014
1:44 "	4	0.0668	98	163	.0000027
2:00 "	20	0.3334	120	185	.0000137
2:10 "	30	0.5000	117	182	.0000205
2:40 "	60	1.0000	128	193	.0000410
3:10 "	90	1.5000	149	214	.0000616
3:40 "	120	2.0000	200	265	.0000821
4:10 "	150	2.5000	207	272	.0001026
4:40 "	180	3.0000	209	274	.0001231
5:10 "	210	3.5000	213	278	.0001437
5:40 "	240	4.0000	216	281	.0001642
6:40 "	300	5.0000	191	256	.0002052
7:40 "	360	6.0000	177	242	.0002462
8:40 "	420	7.0000	160	225	.0002873
9:40 "	480	8.0000	143	208	.0003283
11:40 "	600	10.0000	112	178	.0004103
1:40 AM	720	12.0000	112	166	.0004924

377

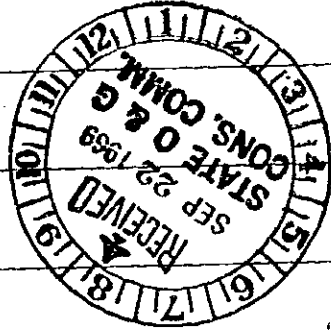
RESERVOIR PRESSURE REPORT

Operator **KERR-McGEE CORPORATION** Address **Kerr-McGee Building, Oklahoma City, Okla.** Date **Sept. 12, 1969**
 Field **Dineh-bi-keyah** County **Apache** General Survey* ☒ Datum Plane **+4500** Gas Gravity **---**
 Producing Formation **Hermosa** Oil Gradient **.35 psi/ft.** Initial Completion* **---** Bomb Test Data **---** Special* **---**

Dineh-bi-keyah			Apache		General Survey*		Datum Plane		Gas Gravity						
Producing Formation		Oil Gradient	Initial Completion*		Special*		Sonic Instrument Test Data		Pressure At Datum*						
Hermosa		.35 psi/ft.	Water Gradient		Bomb Test Data		Prod. Test (Bbls per Day)		Casing Pressure						
Lease		Well No.	Date Tested	Hrs.	Shut-in Pressure	Test Depth	B.H. Temp.	Observed Pressure	Oil	Water	Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column	Pressure
Permit Number															
Navajo	377	1	8-10-69	12		+4655		Psig							258
Navajo	379	2	8-10-69	12		+4429		112							191
Navajo	386	3X	8-10-69	12		+4552		170							211
Navajo	384	4	8-10-69	12		+4462		163							126
Navajo	396	9	8-18-69	12		+4457		126							136

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SEP 22 1969
STATE OF ARIZONA
CONS. COM. 1

*pressures calculated from extrapolations of bottom hole pressure build-up tests in accordance with method set forth by Mr. D. R. Horner (see attached data).



*Pressures calculated from extrapolations of bottom hole pressure build-up tests in accordance with method set forth by Mr. D. R. Horner (see attached data).

Designate type of report by "X".
 CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the... Reservoir Engr... of the
Kerr-McGee Corporation... (company), and that I am authorized by said company to make this report; and
 this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to
 the best of my knowledge.

STATE OF ARIZONA

OIL & GAS CONSERVATION COMMISSION

Reservoir Pressure Report

Form No. P-12

File two copies

4-0-59

Authorized by Order No.

Effective

April 6, 1950

September 12, 1969

Date

377

PRESSURE BUILD-UP TEST

NAVAJO NO. 1

CALCULATION SHEET

Test Date: 8-10-69

Dimensionless Pressure Drawdown, $p(t_{De})$

$$p(t_{De}) = \frac{2.303 (P_i - P^*)}{M}$$

Where: $p(t_{De})$ = dimensionless pressure drawdown at exterior boundary of drainage system

P_i = initial static pressure in drainage system or reservoir = 729 psia

P^* = pressure at exterior boundary determined by extrapolating straight line slope of build-up plot to infinite shut-in time = 297.5 psia (plot attached)

M = straight line slope of build-up plot, psia per cycle = 24 (plot attached)

$$p(t_{De}) = \frac{2.303 (729 - 297.5)}{24} = 41.41$$

Dimensionless Producing Time, t_{De}

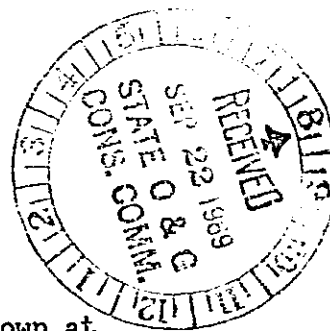
The dimensionless producing time is determined to be 11.3 from a plot of $p(t_{De})$ versus t_{De} (refer to Case No. 26 hearing exhibits for example of this plot).

Average Static Pressure, \bar{P}

$$\bar{P} = P_i - 1.737 M t_{De}$$

Where \bar{P} = average static pressure of the drainage system

$$\bar{P} = 729 - 1.737 (24) (11.3) = \underline{258 \text{ psia}}$$



Attachment No. 1

Shut-in Pressure History Information

Navajo No. 1 - Perfs. 2860-85 (+4713 - +4688); Sensor: 2718 (+4842)

Original (est. from fluid level):

2-4-67 650 psig @ 2872 (+4701 - cent. of perfs.)
718 psig @ +4500 datum

Additional:		SI Pressure (Psig)	
Date	Sensor	Perforations	+4500 Datum
4-1-67	462	512	582
4-28-67	462	512	582
7-6-67	386	436	506

Navajo No. 2 - Perfs. 3060-3114 (+4554 - +4500); Sensor: 2590 (+5014)

Original (Sub-surface bomb):

3-10-67 645 psig @ 3087 (+4527 - cent. of perfs.)
654 psig @ +4500 datum

Additional:		SI Pressure (Psig)	
Date	Sensor	Perforations	+4500 Datum
4-1-67	440	610	619

Navajo No. 3X - Perfs. 3427-3457 (+4575 - +4545); Sensor: 2967 (+5040)

Original (Sensor Pressure):

4-7-67 412 psig @ 2962 (+5040 - sensor location)
601 psig @ +4500 datum

Additional:		SI Pressure (Psig)	
Date	Sensor	Perforations	+4500 Datum
5-10-67	344	512	533
5-24-67	332	500	521
7-6-67	284	452	473

Navajo No. 4 - Open hole 2898-2960 (+4476 - +4414); Sensor: 2788 (+4573)

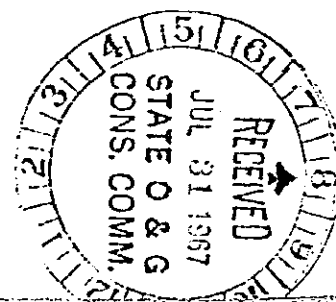
Original (Sub-surface Bomb)

7-17-67 490 psig @ 2950 (+4411)
459 psig @ +4500 datum

Navajo No. 6 - Perfs. 3672-3726 (+4673 - +4619); Beam Pump - No Sensor

Original (Est. from Fluid Level):

6-30-67 489 psig @ 3699 (+4633 - cent. of perfs.)
535 psig @ +4500 datum



Attachment No. 2

Shut-in Pressure Build-up Data:

Navajo No. 2 - Test date: 3-19-67

Original SIP on 3-10-67 was 645 psig at 3087 (+4527) or 654 psig at +4500 Datum;
 Perforations: 3060-3114' (+4554-+4500'); Pressure Sensor at 2590 (+5014);
 Orig. SIP at Sensor 475 psig. Well SI 3-19-67 after producing at 2875 BOPD rate
 with 360 psig sensor pump pressure (530 psig at center of perfs.) Pressure build-
 up as follows:

11:50 AM - SI - Pump Press.	530 psig (cent. of perfs.)
11:55 AM -	600 psig
12:00 Noon -	600 psig
12:05 PM -	600 psig
12:10 PM -	610 psig
12:15 PM -	610 psig
1:15 PM -	610 psig

Navajo No. 1 - Test Period: 7-3 to 6-1967

SIP on 4-28-67 was 462 psig at 2718 (+4842 - sensor location) or 582 psig at +4500 datum; Perforations: 2860-85 (+4713 - +4688) Sensor at 2718 (+4842). Well SI on 7-3-67 after pumping at 550 BOPD rate with 94 psig sensor pressure (214 psig at +4500 datum) Pressure build-up as follows:

<u>Time After SI</u>	<u>Pressure at +4500 Datum</u>
0 SI	214 psig
16 hours	445 psig
40 hours	488 psig
64 hours	506 psig

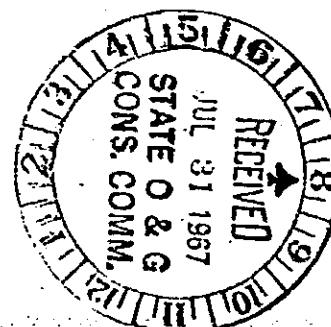
Note: Build-up test indicated that additional pay section should be opened. The well was subsequently recompleted by opening an additional 57 feet of pay and fracture treating. A threefold productivity increase was accomplished.

Navajo 3X - Test Period: 7-3 to 6-67

Original SIP on 4-7-67 was 580 psig at 3442 (perfs - +4560) or 601 psig at +4500 datum; Perforations: 3427-57 (+4575 - +4545); Pressure Sensor at 2962 (+5040). Well SI 7-3-67 after pumping at 2540 BOPD rate with 250 psig sensor pressure (439 at +4500 datum). Pressure build-up as follows:

<u>Time After SI</u>	<u>Pressure at +4500 Datum</u>	<u>% Change Fm. Last Press.</u>
0	439 psig	-
16 hours	463 psig	5.2%
40 hours	469 psig	1.3%
64 hours	473 psig	0.8%

Note: 97.9% of the wells 64 hour SIP was achieved after 16 hours.



ARIZ.

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG																	
DESIGNATE TYPE OF COMPLETION:																	
New Well	<input type="checkbox"/>	Work-Over	<input checked="" type="checkbox"/>	Deepen	<input type="checkbox"/>	Plug Back	<input type="checkbox"/>	Same Reservoir	<input checked="" type="checkbox"/>	Different Reservoir	<input type="checkbox"/>	Oil	<input checked="" type="checkbox"/>	Gas	<input type="checkbox"/>	Dry	<input type="checkbox"/>
DESCRIPTION OF WELL AND LEASE																	
Operator Kerr-McGee Corporation						Address Farmington, New Mexico 87401 215 Petroleum Center Bldg.											
Federal, State or Indian Lease Number or name of lessor if fee lease Navajo 14-20-0603-8823						Well Number No. 1		Field & Reservoir Dineh-bi-Keyah, Hermosa									
Location 660' FSL & 2000' FWL						County Apache											
Sec. TWP-Range or Block & Survey Sec. 32, T36N, R30E																	
Date WORKOVER WORKOVER		Date total depth reached		Date completed, ready to produce		Elevation (DF, REB, RT or Gr.)		Elevation of casing hd. flange									
7-14-67		2-13-65		7-15-67		7560'		feet									
Total depth 3864'		P.B.T.D. 3050'		Single, dual or triple completion?		If this is a dual or triple completion, furnish separate report for each completion.											
				Single													
Producing interval (s) for this completion 2860' - 2942'						Rotary tools used (interval) All		Cable tools used (interval) None									
Was this well directionally drilled?		Was directional survey made?		Was copy of directional survey filed?		Date filed											
No		No		No		None											
Type of electrical or other logs run (check logs filed with the commission) Ind.-Electric, Sonic-GR, Caliper Cement Bond								Date filed Oct. 22, 1965									
CASING RECORD																	
Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)																	
Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled											
Surface	13-3/8	10-3/4	40.5	323	200	None											
Production	8-3/4	7	20	3159	700	None											
TUBING RECORD					LINER RECORD												
Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)										
3-1/2 in.	2762 ft.	None ft.	in.	None ft.	ft.												
PERFORATION RECORD					ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD												
Number per ft.	Size & type	Depth Interval		Am't. & kind of material used		Depth Interval											
4	.46 jet	2860'-2885'		62,000 gal. oil,		2860-2942											
1	.50 jet	2885'-2942'		30,000#Sd, 3000#Adomite.													
INITIAL PRODUCTION																	
Date of first production		Producing method (indicate if flowing, gas lift or pumping—If pumping, show size & type of pump:)															
7-19-67		Reda Pump.															
Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity											
7-23-67	24	None	1851 bbls.	135 MCF	0 bbls.	43.3 API (Corr)											
Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio											
45	0		1851 bbls.	135 MCF	0 bbls.	73' 3/bbl.											
Disposition of gas (state whether vented, used for fuel or sold): Vented.																	
<p>CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the..... Production Supt..... of the Kerr-McGee Corporation.....(company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.</p> <p>7-31-67 Date</p> <p style="text-align: right;">Signature</p>																	
					<p>STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION</p> <p>Well Completion or Recompletion Report and Well Log</p> <p>Form No. 4 File One Copy</p>												
Permit No. 377																	

(Complete Reverse Side)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. 14-20-0603-8823																			
b. TYPE OF COMPLETION: NEW WELL <input type="checkbox"/> WORK OVER <input checked="" type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NAVAJO																			
2. NAME OF OPERATOR Kerr-McGee Corporation		7. UNIT AGREEMENT NAME																			
3. ADDRESS OF OPERATOR 215 Petroleum Center Bldg. - Farmington, New Mexico		8. FARM OR LEASE NAME NAVAJO																			
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 660' FSL & 2000' FWL of Sec. 32. At top prod. interval reported below Same. At total depth Same. workover		9. WELL NO. NO. 1																			
14. PERMIT NO. State No. 377		10. FIELD AND POOL, OR WILDCAT Dineh-bi-Keyah																			
DATE ISSUED 1-23-67		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 32, T36N, R30E Gila & Salt River Meridian																			
15. DATE 7-14-67 16. DATE T.D. REACHED 7-19-67		12. COUNTY OR PARISH Apache																			
17. DATE COMPL. (Ready to prod.) 7-19-67		13. STATE Arizona																			
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 7560' GR		19. ELEV. CASINGHEAD																			
20. TOTAL DEPTH, MD & TVD 3864'		21. PLUG, BACK T.D., MD & TVD 3050' MD																			
22. IF MULTIPLE COMPL., HOW MANY* No		23. INTERVALS DRILLED BY All																			
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 2860' - 2942' Hermosa Intrusive		25. WAS DIRECTIONAL SURVEY MADE No.																			
26. TYPE ELECTRIC AND OTHER LOGS RUN Sonic-Calipers - Gamma Ray, Induction-Electric Cement Bond		27. WAS WELL CORED NO.																			
28. CASING RECORD (Report all strings set in well)																					
<table border="1"><thead><tr><th>CASINO SIZE</th><th>WEIGHT, LB./FT.</th><th>DEPTH SET (MD)</th><th>HOLE SIZE</th><th>CEMENTING RECORD</th><th>AMOUNT FULLED</th></tr></thead><tbody><tr><td>10-3/4</td><td>40.5</td><td>323'</td><td>13-3/4</td><td>200 sacks</td><td>None</td></tr><tr><td>7</td><td>20</td><td>3159'</td><td>8-3/4</td><td>700 sacks</td><td>None</td></tr></tbody></table>				CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT FULLED	10-3/4	40.5	323'	13-3/4	200 sacks	None	7	20	3159'	8-3/4	700 sacks	None
CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT FULLED																
10-3/4	40.5	323'	13-3/4	200 sacks	None																
7	20	3159'	8-3/4	700 sacks	None																
29. LINER RECORD																					
<table border="1"><thead><tr><th>SIZE</th><th>TOP (MD)</th><th>BOTTOM (MD)</th><th>SACKS CEMENT*</th><th>SCREEN (MD)</th></tr></thead><tbody><tr><td>None</td><td></td><td></td><td></td><td></td></tr></tbody></table>				SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	None												
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)																	
None																					
30. TUBING RECORD																					
<table border="1"><thead><tr><th>SIZE</th><th>DEPTH SET (MD)</th><th>PACKER SET (MD)</th></tr></thead><tbody><tr><td>3-1/2</td><td>2762'</td><td>None</td></tr></tbody></table>				SIZE	DEPTH SET (MD)	PACKER SET (MD)	3-1/2	2762'	None												
SIZE	DEPTH SET (MD)	PACKER SET (MD)																			
3-1/2	2762'	None																			
31. PERFORATION RECORD (Interval, size and number)																					
2860'-2885' 4 jets/ft. 0.46", 100 holes. 2885'-2942' 1 jet/ft. 0.50", 57 holes.																					
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.																					
2860'-2942' Frac with 62,000 gals. oil, 30,000# sand, 3000# Adomite, 146 ball sealers.																					
33. PRODUCTION																					
DATE FIRST PRODUCTION 7-19-67																					
PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping - Reda Pump																					
WELL STATUS (Producing or shut-in) Producing.																					
DATE OF TEST 7-23-67																					
HOURS TESTED 24																					
CHOKE SIZE None																					
PROD'N. FOR TEST PERIOD 1851																					
OIL—BBL. 135																					
GAS—MCF. 0																					
WATER—BBL. 73' 3/bbl																					
FLOW, TUBING PRESS. 45																					
CASINO PRESSURE 0																					
CALCULATED 24-HOUR RATE 1851																					
OIL—BBL. 135																					
GAS—MCF. 0																					
WATER—BBL. 43.3																					
OIL GRAVITY-API (CORR.)																					
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Vented.																					
35. LIST OF ATTACHMENTS																					
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records																					
SIGNED <i>[Signature]</i> TITLE <i>Production Engineer</i> DATE 7-31-67																					

*(See Instructions and Spaces for Additional Data on Reverse Side)

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, Federal or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, State, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal agency.

If not filed prior to the time this summary report is submitted, copies of all currently available logs (drillers, geologists, sample-and core analysis, all types electric, etc.), formations, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

If location on Federal or Indian land should be described in accordance with Federal requirements. Consult local State

tion and pressure tests, and directional gas, see item 36. The following should be listed on this form, see item 36.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 4: If there are no applicable lease requirements, check the appropriate box on the accompanying form.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Item 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s) and bottom(s) for only the interval reported in item 23. Submit a separate report (page) on this form, inadequately identified, for each additional interval. If the well is completed for only one interval, so state in item 22, and in item 24 show the producing interval, or intervals, top(s) and bottom(s).

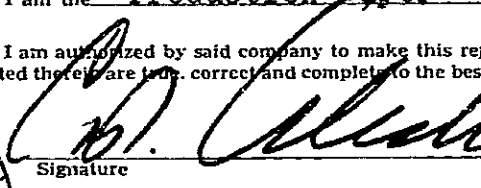
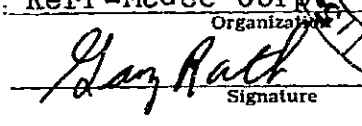
Item 23: If the well is completed for multiple production from more than one interval zone, so state in item 23, and in item 24 show the producing interval, or intervals, top(s) and bottom(s) for only the interval reported in item 23. Submit a separate report (page) on this form, inadequately identified, for each additional interval. If the well is completed for only one interval, so state in item 23, and in item 24 show the producing interval, or intervals, top(s) and bottom(s).

interval, or intervals, top(s), bottom(s) and name(s). (If any one interval reports a failure, the entire interval is reported as failed.) For each additional interval to be separately produced, showing the details of any multiple stage cementing and the location of the cementing tool, item 29: "Stage Cement". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool. (See instruction for items 22 and 24 above.)

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple sack-outs. (See instruction for items 22 and 24 above.)

38. GEOLOGIC MARKERS	NAME	TOP		DESCRIPTION, CONTENTS, ETC.	BOTTOM	FORMATION
		MEAN. DEPTH	TRUE VERT. DEPTH			
37. SUMMARY OF POROUS ZONES: a. SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, BLOWING AND BLU-CLIN UMBRELLA, AND RECOVERING						

ARIZ.

POTENTIAL TEST AND REQUEST FOR ALLOWABLE — OIL WELLS				
DESIGNATE TYPE OF COMPLETION:				
New Well <input type="checkbox"/>	Work-over <input checked="" type="checkbox"/>	Deepen <input type="checkbox"/>	Plug Back <input type="checkbox"/>	Same Reservoir <input checked="" type="checkbox"/> Different Reservoir <input type="checkbox"/>
Other Reason For Filing:				
Operator Kerr-McGee Corporation				
Address 215 Petroleum Center Bldg. - Farmington, New Mexico 87401				
DESCRIPTION OF WELL AND LEASE				
Federal, State or Indian Lease Number, or Lessor's Name if Fee Lease 14-20-0603-8823 Navajo		Well Name Navajo Well No. 1		County Apache
Footage Location 660' FSL and 2000' FWL of Section 32				
Sec. Twp. Rge. Sec. 32, T36N, R30E				
Date XXXXXX workover 7-14-67	Date completed, ready to produce 7-19-67	Total depth 3864'	P.B.T.D. 3050'	
Field and reservoir Dineh-bi-Keyah Hermosa		Top of pay 2860'	Producing interval 2860'-2942'	
TEST DATA				
Date of first production 7-19-67	Date of test 7-23-67	Length of test 24 hrs.	Producing method (flow pump, gas lift) Pump.	Amount of load oil injected if any. None.
Number of barrels of oil produced from completion or recompletion date to test date 7768		If well is produced by pumping, give pump size, length of stroke and strokes per minute. Reda Pump.		
Tubing pressure 45	Casing pressure 0	Choke size None		
*Actual production during test: 1851.0	Oil (bbls) 1851.0	Water (bbls) 0	Gas (MCF) 135	
*Production must actually equal or exceed wells daily allowable or test must be for full 24 hours				
Gas-oil ratio 73 CF/bbl.	XXXXXX Oil gravity 43.3	*API. corrected	Name of transporter of oil Kerr-McGee Pipeline Corp.	
Number of acres attributed to this well 160	Number of producing wells in this reservoir on this lease, including this well 9	Single, dual or triple completion? Single	Daily allowable requested (bbls)	
Plat showing acreage attached—plat should show leases, offset wells, distance from this well to the nearest well on the same lease completed in or drilling to the same reservoir, and the boundaries of drilling and producing, or proration, units attributed to this well and other wells on the same lease completed in or drilling to the same reservoir, the number of acres in each unit and the number of acres in the lease.				
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>Production Supt.</u> of the <u>Kerr-McGee Corporation</u> (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.				
Date 7-31-67		Signature 		
Witnessed by: <u>Kerr-McGee Corp.</u>  Signature		STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Potential Test & Request for Allowable—Oil Wells File One Copy		
Date 7-31-67				
Permit No. <u>377</u>		Form No. 6		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Bureau No. 42-R7144

ALLOTTEE _____
TRIBE Navajo
LEASE No. 14-20-0603-8823

LESSEE'S MONTHLY REPORT OF OPERATIONS

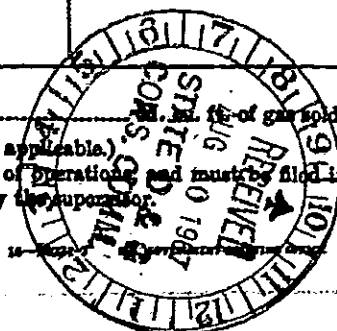
State Arizona County Apache Field Dineh-bi-Keyah
The following is a correct report of operations and production (including drilling and producing wells) for the month of July, 1967,
Agent's address 215 Petroleum Center Building Company Kerr-McGee
Farmington, New Mexico 87401 Signed Harry Roth
Phone 327-9637 Agent's title Production Engineer

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL No.	DATE Produced	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (in thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; also and results of test for gasoline content of gas)
SE SW 32	36N	30E	1	25						Pulled 2-7/8" tubing and Reda pump. Perf from 2885' - 2942'. Frac with 60,000 gallons of crude, 30,000# sand. Ran Reda pump on 3-1/2" tubing set @ 2762' on 7-23-67 well tested 1851 BO/24 hrs, 43.3° API, 73 ft. ³ /bbl. Production data will be submitted as soon as run figures are received from Permian Corporation and have been verified.
SE NW 32	36N	30E	2	31						Production data will be submitted as soon as run figures are received from Permian Corporation and have been verified.
SE SE 32	36N	30E	3X	29						"
SE SW 29	36N	30E	7	28						"
SE SE 30	36N	30E	9	28						"
SE SE 31	36N	30E	5	None						No activity on this well in July, 1967, operation suspended 6-21-67.
SE NE 31	36N	30E	6	23						Ran 2-1/2" x 2" x 16" BH pump, set @ 3642'. On 7-11-67 well tested 163 BO/24 hrs, 42.6° API, 135 ft. ³ /bbl GOR, 2.5% BS&W.
SE NW 31	36N	30E	14	23						Frac with 60,000 gals. crude & 30,000 # sand. Ran 3-1/2" tubing set @ 3820'. Flow testing well.
SE SW 30	36N	30E	15	17						Drill 6-1/4" hole to 3225' with cable tool unit. 7" casing had been set @ 3159'. This leaves an open hole completion in the pay zone from 3159' - 3225'. Frac with 60,000 gals. crude and 30,000# sand. Ran Reda pump on 3-1/2" tubing. Set @ 3122'. Pump testing well.

Note.—There were _____ runs or sales of oil; _____ runs or sales of gasoline during the month. (Write "no" where applicable.)

Note.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329A
(December 1964)



377

Phone 7-28-67 To JB from Bud Williams

#1 Making 1400 Bopd

#

317

Form 2-321
(May 1962)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

NAVAJO

7. UNIT AGREEMENT NAME

NAVAJO

8. FARM OR LEASE NAME

NAVAJO

9. WELL NO.

NO. 1

10. FIELD AND POOL, OR WILDCAT

Dineh-bi-Keyah

11. SEC. T. R. OR BLM. AND
SURVEY OR AREA

Sec. 32, T36N, R30E

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

SUNDY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL ☒ GAS ☐ WELL ☐ OTHER ☐

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg. - Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

660' FSL & 2000' FWL Sec. 32, T36N, R30E
Apache Co., Arizona

14. PERMIT NO.
State No. 377

15. ELEVATIONS (Show whether SP, ST, OR, etc.)
7564' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACURE TREAT

SHOOT OR ACIDIZING

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETS

ABANDON*

CHANGE PLANS

WATER SHUT-OFF

FRACURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

SUBSEQUENT REPORT OF:

REPAIRING WELL

ALTERING CASING

ABANDONMENT

Perforating

(Note: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)

Moved in double drum unit and pulled 2-7/8" tubing and Reda Pump
Perforated with 1 jet/ft from 2885'-2942'. Ran 4-1/2" OD casing
and packer to 1315' and set packer. Frac with 62,000 gallons of
lease crude and 30,000# 10-20 sand. Used Adomite Mark II and 116
ball sealers. Max. pressure: 3000 psi. Ave. Treating Pressure
2500 psi. Ave. Injection Rate: 58.3 BPM.

18. I hereby certify that the foregoing is true and correct

SIGNED

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

Production Supt.

DATE 7-25-67

*See Instructions on Reverse Side

377

RECEIVED
JUL 26 1967
U.S. GEOLOGICAL SURVEY
WASHINGTON, D.C.

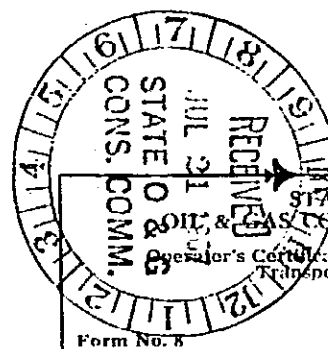
OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM		
Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
14-20-0603-8823	Dineh-bi-Keyah	Lower Hermosa
Survey or Sec-Twp-Rge	County	State
Sec. 29-32-T36N-R30E	Apache	Arizona
Operator Kerr-McGee Corporation		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street	City	State
215 Petroleum Center Bldg.	Farmington	New Mexico 87401
Above named operator authorizes (name of transporter)		
Kerr-McGee Pipeline Corporation	Attention: Mr. A. R. Gockel	
Transporter's street address	City	State
Kerr-McGee Building	Oklahoma City	Oklahoma 73102
Field address P. O. Box 989 - Farmington, New Mexico 87401		
Oil, condensate, gas well gas, casinghead gas		
To transport	% of the	from said lease.
100	oil	
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.		
Change of Gatherer & Transporter Effective: 7/19/67		

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Production Superintendent of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date 7/19/67 Signature P. D. [Signature]

Date approved: 7-21-67
STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
By: John W. Bannister
Permit No. 377



STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease
File Two Copies
Form No. 8

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

Form approved
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NAVAJO

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
NAVAJO

9. WELL NO.
NO. 1

10. FIELD AND/POOL, OR WILDCAT
Dineh-bi-Keyah

11. SEC. T. R. M., OR BLM, AND
SURVEY OR AREA
Sec. 32, T36N, R30E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. ☒ OIL WELL ☐ GAS WELL ☐ OTHER

2. NAME OF OPERATOR
Kerr-McGee Corporation

3. ADDRESS OF OPERATOR
215 Petroleum Center Bldg.-Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
660' FSL & 2000' FWL Apache County, Arizona

14. PERMIT NO.
State No. 377

15. ELEVATIONS (Show whether DF, WT, GR, etc.)
7564' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input checked="" type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	(Other)	<input type="checkbox"/>
(Other)	<input type="checkbox"/>		
PULL OR ALTER CASING	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
CHANGE PLANS	<input type="checkbox"/>		

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Full 2-1/2" EUE tubing and Reda Pump on 7-14-67. Perforated from 2885' to 2942'. Run 4-1/2" casing with packer set at 1300'. Frac-ture treat with 60,000 gals. of lease crude and 30,000% of sand. Run Reda pump on 3-1/2" EUE tubing.

Confirming Verbal Refus

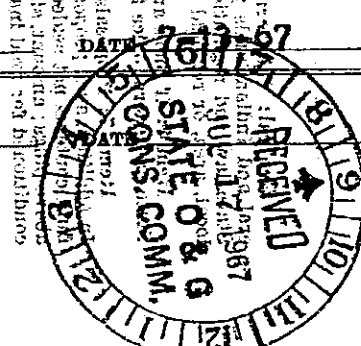
18. I hereby certify that the foregoing is true and correct

SIGNED Gary Roth TITLE Production Engr.

(This space for Federal or State office use)

APPROVED BY John Bonmaster TITLE
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



From the Desk of

JOHN BANNISTER

7-13-67

Per Garry Roth - Kerr McFee

Farming

Recompleting #1

well perf. 2885-2942

w/ 1 shot per ft.

set 4 1/2" casing w/ packer

free 10,000 gal- 30,000 lb sand

pull casing - clean out -

Wren Reed

JB

5-10-67 Ram 24 hr test on 4-26-67
pump 755 BO + 73 MCF
97 GOR 43.7 gaw

377

WELL SITE CHECK

By J. B.
Date 4-29-67

Contractor _____ Person(s) Contacted _____

Spud Date _____

Type Rig _____ Rotary Cable Tool Present Operations _____

Samples _____

Pipe _____ Drilling with Air Mud _____

Water Zones _____ Size Hole _____

Lost Circ. Zones _____ Size Drill Pipe _____

Formation Tops _____ Type Bit _____

Cores, Logs, DST _____ No. Bit _____ Drilling _____

_____ Formation _____

Crews _____ Lithology _____

REMARKS, PHOTO, MAP

At location too late for pictures. Jack still standing by hole but Reda pump in hole and being used. 14 1000 Bl. tanks on location with hose fixed for 4 more. It is planned to bring production from #3 & from B wells to this site for loading pending construction of tank farm in NE of 29-36N-30E.

Location Good - painted - well kept - proper signs up however no Permit No. shown.

Will go tight.

WELL NAME Kerr-McGee #1 Navajo
SE SW 32-36N-30E
660' FSL - 2000' FWL

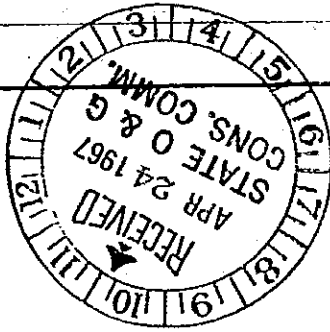
Permit No. 377
Confidential: yes (NO)

RESERVOIR PRESSURE REPORT

Operator Kerr-McGee Corporation		Address P.O. Box K, Sunray, Texas		Date 4-20-67
Field Dineh bi Keyah		County Apache	Gas Gravity	
Producing Formation HERMOSA	Oil Gradient 0.34	Water Gradient ---	Initial Completion X	General Survey # 4201

Hermosa	Well Name	Permit No.	Well No.	Oil (O) or Gas (G)	Date Tested	Shut-In Time	Shut-In Tubing Pressure	Bomb Test Data			Sonic Instrument Test Data					Pressure At Datum		
								Test Depth	B.H. Temp.	Observed Pressure	Prod. Test (Bbls per Day)	Liquid Level	Liquid Gradient	Wt. of Liquid Column	Wt. of Gas Column		Casing Pressure	
																		Oil
0.34	Navajo #1	377	1	oil	3-8-67	24hr	0				634.12	0	1912	0.34	650	-	0	650

RECEIVED
APR 24 1967
STATE O & G
CONS. COMM.



* Designate type of report by "X".

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the of the
Kerr-McGee Corporation, (company), and that I am authorized by said company to make this report; and
this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to
the best of my knowledge.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Reservoir Pressure Report
Form No. 7
File One Copy

April 21, 1967
Date

E. C. Buehler
Signature

4-3-67 Telcon w/Otto Barton

Re: Kerr-McGee #3X

TD 3600

Perforated: 3427-3457, 1 shot per foot.
1500 gals. acetic acid into formation. Get small show of oil
and of gas. Then acidized with 1500 gals. of 3% hydrofluoric
acid. Gush of oil came back; but settled to 1-2 barrels per
hour. Then fract wit. Put 5500 gals of in in front of the fm
fract--15000 lbs sand and 30000 gals. load oil; pressure 1700 lbs. ^{7.5 SATBBS}
Swabbed 4-2-67, 1700 lbs. barrels in 11 hours. Should get rest?
of fract today; test tomorrow.

Re: Kerr-McGee #31

Came in way high.

Cored 3678-3762. 28 feet of core looks good; bottom 2 feet are
shale.

Started setting pipe last night, 4-2-67, and finishing this
morning. 7" production to TD of 3850.

Re: Kerr-McGee #7

Spudded 3-29-67 at 8:30 p.m.

Surface pipe (10-3/4") set to 473.73 KB with 500 sax common
cement.

Drilling now at ¹⁶⁷⁵ 1675.

Have had a couple of fishing jobs--trouble at bottom of Cocconino.

	4-1-67	4-2-67
#1 Navajo Production	818	836
#2 Navajo Production	3,013	3,000+ (wasn't sure of exact)

Pressures on these wells have not changed; nor has gas/oil ratio.

3-28-67 Telcon, Otto Barton, Kerr-McGee

Re: Kerr-McGee #7 Navajo
SE SW 29-36N-30E, Apache County
Permit 389

Will move in rig today. Casing program changed from 9-5/8" to 10-3/4".

Re: Kerr-McGee #3A Navajo
SE SE 32-36N-30E, Apache County
Permit 386

Cored and set 7" j55 7lb. pipe to 3582.7 KB. Cemented with 150 sax. Hole size at that depth is 8-5/8".

Cored 54 feet--received 28 feet good pay section. Last 2 feet of core is shale. Expect to come in like #1 Navajo.

Re: Kerr-McGee #1 Navajo
SE SW 32-36N-30E, Apache County
Permit 377

Making about 700 BPD with new Reeda pump.

Pump is pulling well faster than hole will fill up; so running about 45 minutes, shutting down pump for about 30 minutes, and then starting up again.

Contemplating new fract job.

Re: Kerr-McGee #2 Navajo
SE NW 32-36N-30E, Apache County
Permit 379

Making right at, but has not made, 3000 BPD.

Re: Kerr-McGee #B1 Navajo
SE NW 5-35N-30E, Apache County
Permit 381

Drilling slow. Rig too small for altitude and bigger rig is being brought in. Small rigs will be released.

3-13-67

Telcon w/Joe Breeden, Kerr-McGee

Re: #1 Navajo
Permit 377

0800 gauge this date showed 606 barrels produced

Re: #2 Navajo
Permit 379

Reeda pump installed. Started pumping Sunday, March 12.
In 24 hours pumped 2,856.5 barrels.

Bottom of pump at 2590; as nearly as can tell top of fluid is
at 1100 feet. Pumping did not lower level of fluid.

Re: #B1 Navajo
Permit 381

drilling at 1,668 this morning.

Drilling contractor: Garmack Drilling Company, Grand Junction,
Colorado

3.9.67

Alto Barton (telephone)

#1 Mavajo - Has 4 tanks (500 Bbls)
in service.

377

11

3-7-67

Telcon with Joe Breeden, Kerr-McGee

Re: #1 Navajo
Permit 377

more
Will be running some/fluid level tests in near future. Will
keep us posted.

Production:	3-2-67(8:00 a.m. gauges)	588 barrels
	3-3-67	622
	3-4-67	609
	3-5-67	622
	3-6-67	570
	3-7-67	573

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE		
Lease Navajo 14-20-0603-8823	Field Wildcat	Reservoir Pennsylvanian Lower Hermosa
Survey or Sec-Twp-Rge Sec 32, T36N, R30E	County Apache	State Arizona
Operator		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P.O. Box K	City Sunray	State Texas
Above named operator authorizes (name of transporter) Permian Corporation		
Transporter's street address 2003 Wilco Building	City Midland	State Texas
Field address Farmington, New Mexico Joe Kenney		
Oil, condensate, gas well gas, casinghead gas		
To transport 100	% of the Oil	from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer None	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change. Change of Gatherer		

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Div. Supt. Oil & Gas Prod. of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

2-28-67
Date
OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA
Date approved: 1624 WEST ADAMS - SUITE 202
TELEPHONE: 271-5161
PHOENIX, ARIZONA, 85007
Commissioner's Number: John K. Emmester
File No. 377

[Signature]
Signature

By:

STATE OF ARIZONA OIL & GAS
CONSERVATION COMMISSION
Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease
Form No. P-17 File three copies
Authorized by Order No. 4-6-59
Effective April 6, 19 59

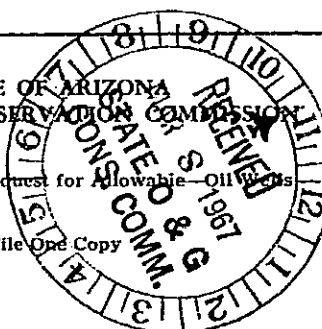
14

POTENTIAL TEST AND REQUEST FOR ALLOWABLE OIL WELLS				
DESIGNATE TYPE OF COMPLETION:				
Re-entry <input checked="" type="checkbox"/>	Work-over <input type="checkbox"/>	Deepen <input type="checkbox"/>	Plug Back <input type="checkbox"/>	Same Reservoir <input type="checkbox"/> Different Reservoir <input type="checkbox"/>
Other Reason For Filing:				
Operator Kerr-McGee Corporation				
Address P.O. Box K, Sunray, Texas				
DESCRIPTION OF WELL AND LEASE				
Federal, State or Indian Lease Number, or Lessor's Name if Fee Lease 14-20-0603-8823 Navajo		Well Name Navajo #1		County Apache
Footage Location 660' FSL and 2,000' FWL of Section 32				
Sec. Twp. Rge. Section 32, T36N - R30E				
Date well re-entered 1-19-67	Date completed, ready to produce 2-1-67	Total depth 3,864'	P.B.T.D. 3,050'	
Field and reservoir Wildcat Hermosa		Top of pay 2,860'	Producing interval 2,860' - 2,885'	
TEST DATA				
Date of first production 1-27-67	Date of test 2-15-67	Length of test 24 hrs.	Producing method (flow pump, gas lift) Pump	Amount of load oil injected if any.
Number of barrels of oil produced from completion or recompletion date to test date 1153 BBL		If well is produced by pumping, give pump size, length of stroke and strokes per minute. 2 1/2" Tbg pump w/ 15" BBL. 19 - 64" SPM		
Tubing pressure		Casing pressure 50#	Choke size	
*Actual production during test: 634.12	Oil (bbls) 634.12	Water (bbls) 0	Gas (MCF) 85	
*Production must actually equal or exceed wells daily allowable or test must be for full 24 hours				
Gas-oil ratio .134	MCF/bbl.	Oil gravity 43.5	* A.P.I. corrected	Name of transporter of oil McWood - Corp
Number of acres attributed to this well 80	Number of producing wells in this reservoir on this lease, including this well 1	Single, dual or triple completion? Single	Daily allowable requested (bbls) 635	
Plat showing acreage attached—plat should show leases, offset wells, distance from this well to the nearest well on the same lease completed in or drilling to the same reservoir, and the boundaries of drilling and producing, or proration, units attributed to this well and other wells on the same lease completed in or drilling to the same reservoir, the number of acres in each unit and the number of acres in the lease.				
2533 acres in lease - wildcat discovery. Estimated 20 miles to nearest well				
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Div. Supt. Oil & Gas Prod. of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.				
Date 2-16-67		Signature <i>[Signature]</i>		
Witnessed by: <i>[Signature]</i> Organization McWood Corp		Signature 2-15-67 Date		
Permit No. 377		Form No. 5		

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Potential Test & Request for Allowable Oil Wells

File One Copy



WELL SITE CHECK

By JTB
Date 2-13-67

Contractor _____ Person(s) Contacted Off Barton
Spud Date _____
Type Rig _____ Rotary Cable Tool Present Operations _____
Samples _____
Pipe _____ Drilling with Air Mud
Water Zones _____ Size Hole _____
Lost Circ. Zones _____ Size Drill Pipe _____
Formation Tops _____ Type Bit _____
Cores, Logs, DST _____ No. Bit _____ Drilling
_____ Formation _____
Crews _____ Lithology _____

REMARKS, PHOTO, MAP

Telephone:

on pump - 35 BO per hr.

16
WELL NAMEKerr McGee Navajo #1

Permit No.

377

Confidential: yes No

WELL SITE CHECK

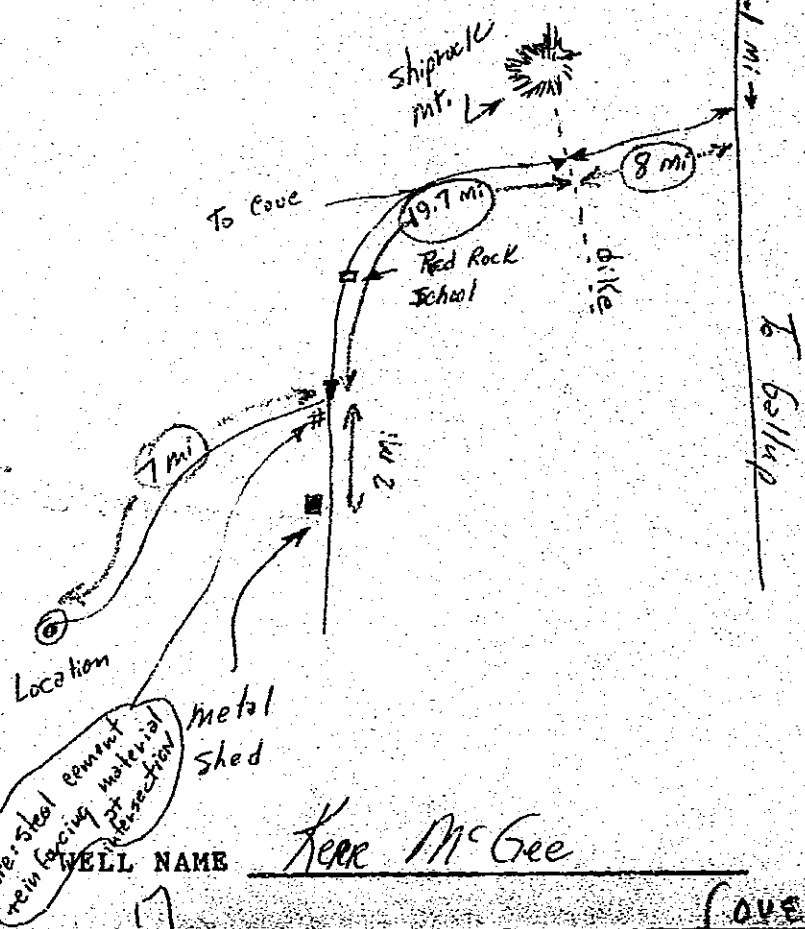
By AS
Date 2-7-67

Contractor Pico (drilled hole originally) Person(s) Contacted Otto Barton, John Fisher
Spud Date _____
Type Rig Rotary ~~Cable Tool~~ Present Operations install tank battery (Two 500 bbl. Tanks)
Samples in 4 can cut Drilling with Air
Pipe _____ Mud _____
Water Zones _____ Size Hole _____
Lost Circ. Zones _____ Size Drill Pipe _____
Formation Tops _____ Type Bit _____
Cores, Logs, DST _____ No. Bit Drilling Date _____
Formation _____
Lithology _____
Crews _____

REMARKS, PHOTO, MAP

Town of Shiprock (Helium Plant) Granite test.

in Penn perf 2860-2885
Swb for 3 days approx.
@ rate 24 1/2 bbls Oil per
hour. Could not swb.
To Reduce fluid level
Below 1600'. Formation
pressure approx 500-600#.



(Note: Come in from
Lakachakei over mountain.
Some mud-ice-snow. Road
not too bad this time of
year.)

Permit No. 377
Confidential: yes No

(OVER)

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE		
Lease Navajo 14-20-0603-8823	Field wildcat	Reservoir Pennsylvanian Lower Hermosa
Survey or Sec-Twp-Rge Sec 32, T36N, R30E	County Apache	State Arizona
Operator		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P.O. Box K,	City Sunray	State Texas
Above named operator authorizes (name of transporter) McWood Corporation		
Transporter's street address 2003 Wilco Bldg	City Midland	State Texas
Field address Farmington, New Mexico, Joe Kenney		
Oil, condensate, gas well gas, casinghead gas		
To transport 100	% of the oil	from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer none	% transported	Product transported
Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change. New Lease		

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Division Production Superintendent** the **Kerr-McGee Corporation** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date **2-3-67**

Signature **John W. Bannister**

Date approved: **2-6-67**

By: **John W. Bannister**
Executive Secretary

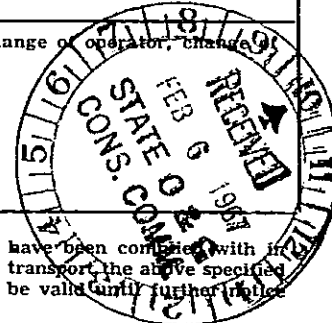
Commissioner's Number: **374**

File No.

Verbal approval 2-3-67

18

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION	
Operator's Certificate of Compliance & Authorization to Transport oil or Gas from Lease	
Form No. P-17	File three copies
Authorized by Order No.	4-6-59
Effective	April 6, 1959



WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG									
RE-ENTRY <input checked="" type="checkbox"/> ^{7/2303} NEW <input checked="" type="checkbox"/> ^{Work-Over}		DESIGNATE TYPE OF COMPLETION: <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Same Reservoir <input type="checkbox"/> Different Reservoir <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Dry							
DESCRIPTION OF WELL AND LEASE									
Operator Kerr-McGee Corporation					Address P.O. Box K, Sunray, Texas				
Federal, State or Indian Lease Number or name of lessor if fee lease Navajo 14-20-0603-8823					Well Number 1		Field & Reservoir Wildcat Pennsylvanian		
Location 660' FSL and 2,000' FWL					County Apache				
Sec. TWP-Range or Block & Survey Sec 32, T36N, R30E, Gila and Salt River Meridian									
Date spudded 1-19-67		Date total depth reached 1-25-67		Date completed, ready to produce 2-1-67		Elevation (DF, RKB, RT or Gr.) 7,560' GR		Elevation of casing hd. flange feet	
Total depth 3,864		P.B.T.D. 3,050		Single, dual or triple completion? Single		If this is a dual or triple completion, furnish separate report for each completion.			
Producing interval (s) for this completion 2,860' - 2,885'					Rotary tools used (Interval) All		Cable tools used (Interval) -----		
Was this well directionally drilled? No		Was directional survey made? No		Was copy of directional survey filed? No		Date filed Oct 22, 1965			
Type of electrical or other logs run (check logs filed with the commission) Induction-Electric, Sonic-Gamma Ray, Gamma Ray, Cement Bond					Date filed Oct 22, 1965				
CASING RECORD									
Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)									
Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled			
Surface	13 3/8"	10 3/4"	40.5	323'	200	None			
Production	8 3/4"	7"	20	3,159'	700	None			
TUBING RECORD					LINER RECORD				
Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)		
2 3/8 in.	2,866 ft.	2,848 ft.	in.	ft.	ft.	None	ft.		
PERFORATION RECORD					ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD				
Number per ft.	Size & type	Depth Interval		Amt. & kind of material used		Depth Interval			
4	Jets	2,860' - 2,885'		358 gals Acetic Acid		2860' - 2,885'			
				10,000 gals oil & 10,000# sand		2,860 - 2885'			
INITIAL PRODUCTION									
Date of first production 1-27-67		Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:) Swabbing							
Date of test 2-1-67	Hrs. tested 9 1/2	Choke size ---	Oil prod. during test 242 bbls.	Gas prod. during test Unknown MCF	Water prod. during test 0 bbls.	Oil gravity 42.5° API (Corr)			
Tubing pressure ---	Casing pressure ---	Cal'd rate of Production per 24 hrs. 611 bbls.	Oil --- bbls.	Gas --- MCF	Water 0 bbls.	Gas-oil ratio Unknown			
Disposition of gas (state whether vented, used for fuel or sold): Vented									
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Agent of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge. February 2, 1967 Date									
					Signature E. J. Breeden				
Permit No. 377					STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Well Completion or Recompletion Report and Well Log Form No. 4 File One Copy				

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Triassic	0	573'	Shale
Permian	573'	1,305'	Sandstone 573 to 1,260 Shale 1,260 - 1,305
Pennsylvanian	1,305'	3,127'	
Mississippian	3,127'	3,324'	
Devonian	3,324'	3,690'	
Cambrian	3,690'	3,830'	
Pre-Cambrian	3,830'	3,864'	
TD	3,864'		
			<p>Drill Stem Tests:</p> <p>DST#1 from 590'-617' TD. 5/8" bottom hole choke. No water cushion. Very weak blow which died in 10 minutes. I&FFP 13.1#. FSIP 22.8#. I&FHH 275#.</p> <p>DST#2 from 683'-695' TD. good blow immediately which died in 5 minutes. Recovered 10 gallons of rotary mud. No pressures.</p> <p>DST#3 from 683'-700' TD. Good blow immediately which died in 5 minutes. Recovered 10' mud. No pressures.</p> <p>DST#4 from 683'-700' TD. 1" bottom hole choke and 120' water cushion. Fair blow immediately which died in 7 minutes. Recovered 380' of rotary mud and 120' of water cushion. IFP 190#, FFP 170#. FSIP 242#, I&FHH 320#.</p>

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other ☐

2. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. DESVR ☐ Other Re-entry

3. NAME OF OPERATOR
Kerr-McGee Corporation

4. ADDRESS OF OPERATOR
P.O. Box K, Sunray, Texas

5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 660' FSL and 2,000' FWL of section 32, T36N, R30E,
Apache County, Arizona
At top prod. interval reported below
At total depth
Same
Same

14. PERMIT NO. re-entered DATE ISSUED 1-19-67

6. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8823

7. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo Tribe

8. UNIT AGREEMENT NAME

9. FARM OR LEASE NAME

Navajo

10. WELL NO.

1

11. FIELD AND POOL, OR WILDCAT

Wildcat

12. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 32-T36N-R30E Gila and Salt River Meridian

13. COUNTY OR PARISH

Apache

14. STATE

Arizona

15. DATE 1-19-67 16. DATE T.D. REACHED 1-25-67 17. DATE COMPL. (Ready to prod.) 2-1-67 18. ELEVATIONS (OF, RKB, ET, GR, ETC.)* 7,560' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 3,864' 21. PLUG, BACK T.D., MD & TVD 3,050' MD 22. IF MULTIPLE COMPL., HOW MANY* No 23. INTERVALS DRILLED BY All 24. ROTARY TOOL

25. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 2,860' - 2,885' MD Pennsylvanian 26. WAS DIRECTIONAL SURVEY MADE No

27. TYPE ELECTRIC AND OTHER LOGS RUN Logs sent to U.S.G.S. in Farmington on July 7, 1965 28. WAS WELL CORRO No

29. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB/FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT FULLED
10 3/4"	40.5	323	13 3/4"	200 sacks	None
7"	20	3159	8 3/4"	700 sacks	None

LINER RECORD				TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)
		None			2 3/8"	2,866
						2,848'

30. PERFORATION RECORD (Interval, size and number)
2,860'-2,885' with 4 jets per foot or 100 holes

ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
2860'-2885'	358 gals 10% acetic acid
2860'-2885'	10,000 gals oil & 10,000 # sand

PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
1-27-67		Swabbing				Shut in for tank room	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
2-1-67	9 1/2	---	---	242	unknown	0	unknown
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
0	0	---	611	unknown	0	425	

31. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) vented TEST WITNESSED BY L. Vann

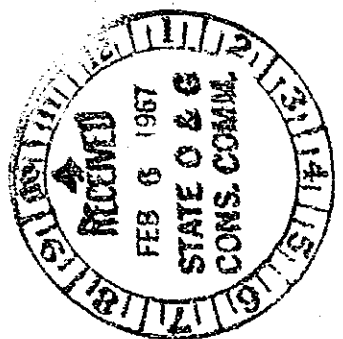
32. LIST OF ATTACHMENTS None

33. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED C. J. Bruden TITLE Engineer DATE 2-2-67

*(See Instructions and Spaces for Additional Data on Reverse Side)

19 377



INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 38, below regarding separate reports for separate completions. Formations, intervals, or intervals, top(s), bottom(s) and name(s), (if any) for only the interval pertinent to such interval, showing the additional data pertinent to such interval, for each additional interval to be separately produced, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 14: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Item 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22 and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s), (if any) for only the interval pertinent to such interval. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Seals Cement". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTRAST THEREIN; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTS, CUSHION USED, TEST TOOL USED, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES		GEOLOGIC MARKERS	
FORMATION	TOP BOTTOM	NAME	MEAN DEPTH TRUE VERT. DEPTH
Triassic	GL		
Permian	573		
Pennsylvanian	1,305		
Mississippian	3,127		
Devonian	3,324		
Cambrian	3,690		
Pre-Cambrian	3,830		

37

RECEIVED
JUL 9 1967
STATE O & G
CONG. COMM.

U.S. GOVERNMENT PRINTING OFFICE: 1963 O-685336

All Drill Stem Tests were reported on original filing of this form on July 1, 1965.

Form 2-221
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8823

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo Tribe

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Navajo

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC. T. R. M., OR ELEC. AND SURVEY OR AREA

Sec 32, T36N-R30E, Gila and Salt River Meridian

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, BY, OR, etc.)

7,560' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

Perforating

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Started re-entry work 1-19-67. Drilled out all cement plugs and bridge plugs to 3,050'. on 1-26-67, spotted 1000 gallons of 10% acetic acid with bottom of tubing at 3,020'. Pulled tubing. Perforated from 2,860' to 2885' with 4 jets per foot. On 1-27-67 acidized with 358 gallons of 10% acetic acid. Recovered 4 barrels of new oil in 5 hours of swabbing. On 1-29-67, Fractured well with 10,000 gallons of crude oil and 10,000# of 20-40 sand. On 1-31-67 has recovered all of frac oil and 137 barrels of new oil. On 2-1-67, swabbed 242 barrels of oil and no water in 9 1/2 hours

18. I hereby certify that the foregoing is true and correct

SIGNED C. J. Breiden

TITLE Engineer

DATE 2-2-67

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

DRY NOTICES AND REPORTS ON WELL

1. Name of Operator Kerr-McGee Corporation

2. OIL WELL ☒ GAS WELL ☐ OTHER ☐ (Specify) _____

3. Well Name Navajo No.1

Location 660' FSL and 2,000 FWL

Sec. 32 Twp. 36N Rgc. 30E County Apache Arizona.

4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8823

Navajo Indian Tribe

5. Field or Pool Name Wildcat

6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input checked="" type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input checked="" type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) <u>Monthly Report</u>	ABANDONMENT <input checked="" type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

1-19-67 Removed marked. Nippled up and installed blowout preventors. Drilled out the 10 sack cement plug at the top of the 7" OD casing and started drilling on plug at 540'.

1-20 thru 25-67 Drilled out cement plug from 540' to 750', cement retainer at 796', cement plug 800' to 890', DM bridge plug at 1,161', cement plug from 1,210' to 1,252'. Cleaned out to 3,050' where there is a bridge plug.

1-26-67 Spotted 1,000 gallons of 10% acetic acid with bottom of tubing at 3,020'. Pulled tubing. Perforated from 2,860' - 2,885' with 4 jets per foot. Swabbed well dry. No fillup.

1-27-67 Acidized with 358 gallons of 10% acetic acid. Recovered 4 barrels of new oil in 5 hours of swabbing.

1-28-67 Swabbed 6.75 barrels of new oil in 8 hours.

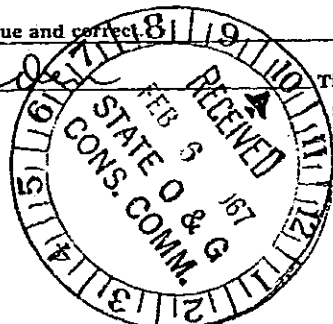
1-29-67 Fractured well with 10,000 gallons of crude oil and 10,000# of 20-40 sand.

1-30 & 31-67 Swabbed back all of frac oil and 137 bbls of new oil.

8. I hereby certify that the foregoing is true and correct

Signed C. J. Brundage Title Engineer Date 2-2-67

Permit No. _____



STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. 25

February 1, 1967

Re: Kerr-McGee #1 Navajo
SE SW 32-36N-30E, Apache County
Permit 377 (to re-enter)

Mr. Otto Barton telephoned at 10:30 a.m. this date. Reported that Kerr-McGee has made an oil well.

Initial production estimated 20 barrels per hour, 42½° gravity, from Pennsylvanian formation.

The zone was perforated with 4 shots per foot from 2860 to 2885 feet. The oil frack was through 2' tubing with pressure of 400 lbs. The formation took about 9½ barrels per minute. When it broke the formation went on vacuum for approximately five minutes.

Approximately 1200-1300 feet of fluid stood in the hole and could not be pumped down.

Operator will probably pull 2" tubing and set larger tubing and put the well on pump in effort to further test.

Operator has been instructed to file with this office copies of forms filed with U.S.G.S.

Telephone numbers for Otto Barton:
Sunray, Texas (806) 948-4118 office
948-4119
948-4409 -residence

37

24

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

APPLICATION TO DRILL ☐ DEEPEN ☐ PLUG BACK ☐ RE-ENTER OLD WELL ☒

NAME OF COMPANY OR OPERATOR

DATE

Kerr-McGee Corporation

January 17, 1967

Address

City

State

P.O. Box K, Sunray

Sunray

Texas

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number or name of lessor, if fee lease

Well number

Elevation (ground)

14-20-0603-8823

1

7564

Well location and acreage dedicated to the well (give footage from section lines)

Section—township—range or block & survey

660' FSL and 2000' FWL of Sec 32, T36N, R30E

80 Acre

Field & reservoir (If wildcat, so state)

County

Wildcat

Apache

Distance, in miles, and direction from nearest town or post office

15 miles SW of Red Rock, Arizona

Nearest distance from proposed location to property or lease line:

660

feet

Distance from proposed location to nearest drilling, completed or applied—for well on the same lease:

None

feet

Proposed depth:

2900

Rotary or cable tools

Pulling Unit

Approx. date work will start

1-18-67

Number of acres in lease:

2533

Number of wells on lease, including this well, completed in or drilling to this reservoir:

one

If lease, purchased with one or more wells drilled, from whom purchased:

Name

Address

Status and amount of bond

Blanket Bond

Organization Report

On file

Exempt

Filing Fee of \$25.00

Attached

Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone)

We intend to re-enter this plugged well by drilling out cement and clearing cut to 2900'. The Pennsylvanian will be perforated and tested from 2860 - 85 feet.

PLEASE KEEP THIS INFORMATION CONFIDENTIAL.

Verbal Permission 1-17-67
originally drilled under Permit 303.

*Fill in Proposed Casing Program on reverse side

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the... Division Production Supt.

Kerr-McGee Corporation

(company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

CONFIDENTIAL

Otto C. Barton
Signature

Otto C. Barton

Release Date

January 17, 1967

Date

Permit Number:

Approval Date:

Approved By:

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

See Instruction on Reverse Side of Form

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill, Deepen or Plug Back and Plat

File Two Copies

Form No. 3

1. Operator shall outline the dedicated acreage for both oil and gas wells on the plat.
2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.
3. All distances shown on the plat must be from the outer boundaries of the Section.
4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES _____ NO _____
5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES _____ NO _____ If answer is "yes," Type of Consolidation _____
6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description			
<div style="display: flex; justify-content: space-between;"> <div style="width: 50%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; height: 150px; vertical-align: top;"> <p>330' 660' 990' 1320' 1650' 1980' 2310' 2640'</p> </td> <td style="width: 25%; height: 150px; vertical-align: top;"> <p>2000' 1500' 1000' 500'</p> </td> <td style="width: 50%; height: 150px; vertical-align: top;"> <p>0</p> </td> </tr> </table> </div> <div style="width: 50%;"> <p style="text-align: center;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p>Name _____</p> <p>Position _____</p> <p>Company _____</p> <p>Date _____</p> <p>I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>Date Surveyed _____</p> <p>Registered Professional Engineer and/or Land Surveyor _____</p> <p>Certificate No. _____</p> </div> </div>		<p>330' 660' 990' 1320' 1650' 1980' 2310' 2640'</p>	<p>2000' 1500' 1000' 500'</p>	<p>0</p>
<p>330' 660' 990' 1320' 1650' 1980' 2310' 2640'</p>	<p>2000' 1500' 1000' 500'</p>	<p>0</p>		

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement

COMPANY Kerr-McGee Oil Industries, Inc.

Well Name & No. No. 1 No. 2

Lease No. _____

Location 660 feet from the South line and 2000 feet from the West line.

Being in SE 1/4 SW 1/4

Sec. 32, T36 N., R30 E., East ~~1/4~~ 1/4, Gila & Salt River Meridian, Apache County, Arizona

KM Ground Elevation 7560

KM

K.M.

KM

K.M.

K.M.

Humble

Scale, 4 inches = 1 mile

KERR-McGee

Surveyed November 22

, 19 64

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.



Ernest V. Echohawk

Ernest V. Echohawk
Registered Land Surveyor
N.M. Reg. #1545
Arizona Reg. No. 2311

KM Navajo No. 2 - DRILLING well
ONLY OPERATION IN area.

W. Barton

377



PERMIT TO ~~DRILL~~ RE-ENTER

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: KERR-MC GEE CORPORATION
(OPERATOR)

RE-ENTER
to ~~NEW~~ a well to be known as

KERR-MC GEE #1 NAVAJO
(WELL NAME)

located 660' FSL and 2000' FWL (SE SW)

Section 32 Township 36N Range 30E, Apache County, Arizona.

The E/2 SW/4 of said

Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 23rd day of January, 19 67.

PRIOR TO BEING ALLOWED TO PRODUCE THIS WELL
YOU MUST BE IN FULL COMPLIANCE WITH RULE
100, SECTION A THRU G (SPACING), WITH RESPECT
TO THE PRODUCT TO BE PRODUCED.

OIL AND GAS CONSERVATION COMMISSION

By

John Bannister
EXECUTIVE SECRETARY

PERMIT No 377

RECEIPT NO. 9471

API Well No. 02-001-20001

State of Arizona
Oil & Gas Conservation Commission

Permit to Drill

FORM NO. 27

DINEH-BI-KEYAH FIELD

Operator: Mountain States Petroleum Corporation

Bond Company: Indian lands, evidence of bond posted with BIA

Amount: \$325,000*

Bond No.: Letter of Credit Bond No. 315 **Date approved:** 5/27/94

* Pursuant to commission motion of October 31, 1997, no bond required with State of Arizona upon evidence of bond posted with the BIA.

Permits covered by this bond posted with the BIA:

<u>377</u> ✓	<u>445</u>
<u>384</u>	<u>446</u>
<u>385</u>	<u>484</u>
<u>386</u>	<u>506</u>
<u>388</u>	<u>618</u>
<u>389</u>	<u>691</u>
<u>390</u>	<u>692</u>
<u>396</u>	<u>693</u>
<u>416</u>	<u>695</u>
<u>417</u>	<u>696</u>
<u>419</u>	<u>719</u>
<u>421</u>	<u>720</u>
<u>422</u>	<u>721</u>
<u>431</u>	<u>722</u>
<u>443</u>	<u>723</u>



Jane Dee Hull
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

December 1, 1997

Ms. Stacey Roberts
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City, OK 73125

Re: Kerr-McGee Corporation
\$25,000 Oil Drilling Blanket Bond #2971100-2620
Safeco Insurance Company of America

Dear Ms. Roberts:

Mountain States Petroleum has provided evidence of its bonding with the BIA for the Dineh-bi-Keyah Field in Arizona, and our records show that Kerr-McGee Corporation has no outstanding drilling or plugging obligations in Arizona.

As a result, this letter constitutes written permission by the Oil and Gas Conservation Commission to terminate liability under the referenced bond. A copy of the bond is enclosed for your information.

Please advise if we may be of further service.

Sincerely,

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosure

Operator KERR-McGEE CORPORATION

Bond Company SAFECO INSURANCE COMPANY OF AMERICA Amount \$25,000

Bond No. 2971100-2620 Date Approved FEBRUARY 18, 1994

ACTIVE

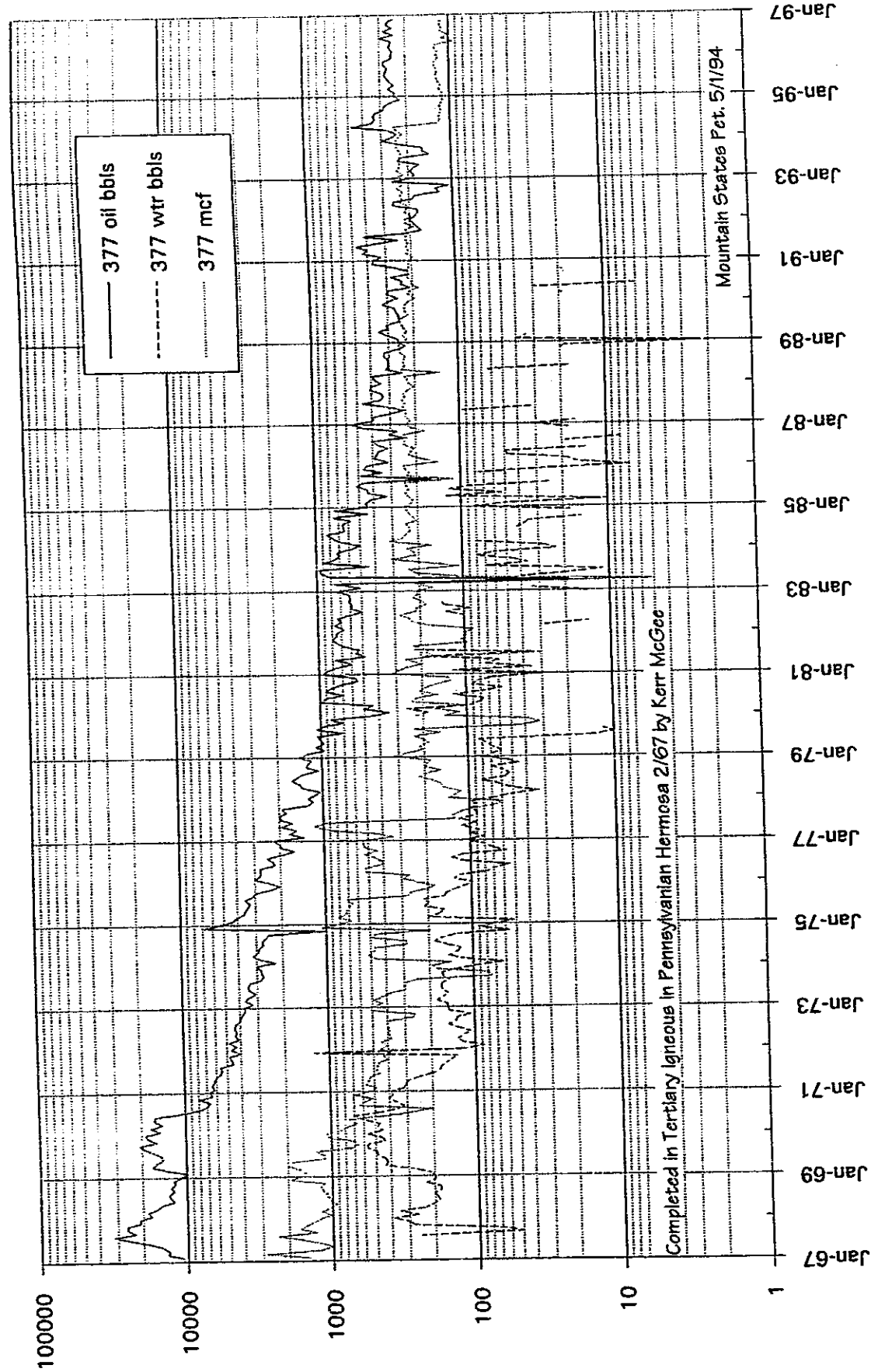
Permits covered by this bond:

CANCELLED
12-1-97

377	445
384	446
385	484
386	506
388	618
389	691
390	692
396	693
416	695
417	696
419	719
421	720
422	721
431	722
443	723

MONTHLY PRODUCTION AT 1 NAVAJO (377), ARIZONA: FEB 1967 - DEC 1996

se sw 32-36n-30e, Dineh-bi-Keyah Field, Apache County





Fife Symington
Governor

State of Arizona
Arizona Geological Survey

845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795



Larry D. Fellows
Director and State Geologist

June 8, 1994

Ms. Judy Burkhart
Mountain States Petroleum Corporation
P. O. Box 1936
Roswell, New Mexico 88201

Dear Ms. Burkhart:

This will acknowledge receipt of your letter of June 6, which included a change of operator form for each of the 31 Kerr-McGee Corporation wells at the Dineh-bi-Keyah Field sold to Mountain States Petroleum Corporation. Our records indicate that the Navajo #B-1 was plugged and abandoned by Kerr-McGee Corporation in October 1993.

Please note that our records indicate a different API number than the one you have recorded on your forms for the following wells:

<u>Well</u>	<u>API #</u>
Navajo 01	02-001-20001
Navajo 03X	02-001-20011
Navajo 04	02-001-20009
Navajo 10	02-001-20042
Navajo 14	02-001-20040
Navajo 15	02-001-20041

Sincerely,

Steven L. Rauzi
Oil & Gas Program Administrator

UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
ROYALTY MANAGEMENT PROGRAM

CHANGES TO REPORTER INFORMATION

OLD INFORMATION:

MMS OPERATOR CODE: X 0 2 1 7

COMPANY NAME:

K E R R M C G E E C O R P O R A T I O N

NEW INFORMATION:

MMS OPERATOR CODE: X 0 2 7 4

COMPANY NAME:

M O U N T A I N S T A T E S P E T R O L E U M C O R P

CONTACT NAME:

R U B Y W I C K E R S H A M

STREET ADDRESS:

2 1 3 E F O U R T H

CITY:

R O S W E L L

STATE:

N M

ZIP CODE:

8 8 2 0 1 -

PHONE:

5 0 5 6 2 3 - 7 1 8 4

AREA CODE

COMPLETE IF APPLICABLE:

☐ I AM NO LONGER AN OPERATOR OF INDIAN OR FEDERAL PROPERTIES.
PLEASE REMOVE MY NAME FROM YOUR MAILING LIST.

COMPANY SOLD TO:

EFFECTIVE DATE:

LEASES / AGREEMENTS AFFECTED:

NAVAJO #1

(303 / 377)

ATLANTA
CONSERVATION COMMISSION

Dineh Bi Keyah Field - Apache County, Arizona

JUN 3 1994

Lease #: 14-20-0603-8823

API #: 020010527000S1

02-001-20001

COMMENTS: This property was sold to Mountain States Petroleum Corp.
and they became operator effective May 1, 1994.

SIGNATURE:

Judy Buehler

DATE:

5/13/94

MAIL TO:

MINERALS MANAGEMENT SERVICE
ROYALTY MANAGEMENT PROGRAM
P.O. BOX 25165 MS 3122
DENVER, CO 80225

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION

213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

June 6, 1994

Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona, 85719

**AZ OIL & GAS
CONSERVATION COMMISSION**

JUN 8 1994

Attention: Steven L. Rauzi,
Oil & Gas Program Administrator

Re: Dineh-bi-Keyah Field
Apache County, Arizona

Dear Sir;

In followup of our May 24, 1994, letter to you relative to the change of operator from Kerr McGee to Mountain States Petroleum Corporation for the captioned field; please find enclosed a copy of the notices sent to the Minerals Management Service.

We hope this will supply the information you requested and apologize for any inconvenience we may have caused. If you have any questions or are in need of anything further please contact the undersigned. Thank you.

Sincerely,

Judy Burkhardt
Judy Burkhardt,
Secretary

Enclosures

P. O. BOX 1936

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION

213 EAST FOURTH STREET
ROSWELL, NEW MEXICO
88202

May 24, 1994

Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719

Attention: Steven L. Rauzi,
Oil & Gas Program Administrator

Re: Dineh-bi-Keyah Field
Apache County, Arizona

Dear Sir;

Please be advised that effective May 1, 1994, Mountain States Petroleum Corporation replaced Kerr-McGee as Operator of the captioned field and it's respective wells.

Listed on the attached sheet are the well names and API #'s of each well in this field, including shut-in, producing, and abandoned wells.

Please change your records to reflect that Mountain States Petroleum Corporation, Post Office Box 1936, Roswell, New Mexico, 88202-1936, (505) 623-7184, is now the operator of these properties and as such will be filing all required monthly production reports.

If you have any questions or are in need of anything further in this matter please contact the undersigned. Thank you.

Sincerely,

Judy Burkhart

Judy Burkhart,
Secretary

Attachment

AZ 000 0001
CONSERVATION COMMISSION

MAY 31 1994

Operator KERR MC GEE ~~OIL~~ ^{Corporation} ~~INDUSTRIES INC.~~

Bond Company Insurance Co. of N. America Amount 25,000

Bond No. M 41 95 25 (KM528) Date Approved 10-28-65

Permits covered by this bond:

<u>10</u>	<u>386</u>	<u>417</u>
<u>36</u>	<u>389</u>	<u>418</u>
<u>37</u>	<u>390</u>	<u>419</u>
<u>38</u>	<u>391</u>	<u>420</u>
<u>39</u>	<u>392</u>	<u>422</u>
<u>57</u>	<u>396</u>	<u>426</u>
<u>63</u>	<u>397</u>	<u>427</u>
<u>64</u>	<u>398</u>	<u>441</u>
<u>142</u>	<u>399</u>	<u>445</u>
<u>238</u>	<u>402</u>	<u>446</u>
<u>303</u>	<u>403</u>	
<u>90</u>	<u>404</u>	
<u>91</u>	<u>405</u>	
<u>319</u>	<u>406</u>	
<u>303</u>	<u>407</u>	
<u>377</u>	<u>408</u>	
<u>378</u>	<u>409</u>	
<u>379</u>	<u>410</u>	
<u>380</u>	<u>411</u>	
<u>381</u>	<u>413</u>	
<u>384</u>	<u>414</u>	
<u>385</u>	<u>416</u>	

CANCELLED

DATE 10-24-68

CANCELLED

Superseded by
 American Casualty Co. Bond
 \$25,000 10-19-73
 #5471020-52
 DATE

→ see this file

317



KERR-McGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

December 3, 1974

PHONE
806 376-7256

State of Arizona
Oil & Gas Conservation Commission
4515 N. 7th Ave.
Phoenix, Arizona 85013

Re: Navajo No.1 - Workover
Dineh-Bi-Keyah Field
Sec. 32 - T36N-R30E
Apache County, Arizona

Dear Sirs:

On the subject well find attached two (2) copies of
"Well Completion or Recompletion Report and Well Log"
and two (2) copies of "Sundry Notices and Reports on
Wells".

If other information is needed, please contact me at
the above address.

Sincerely,

KERR-McGEE CORPORATION


Andrew Abarr
Production Engineer

AA:dt
Attch.

cc: H.C. Hanna/attch.
WRF (thru WER - CJB)/attch.
Farmington Office/attch.

377

RECEIVED

DEC 09 1974

O & G CONS. COMM.



Laramie Energy
Research Center

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

P. O. BOX 3395, UNIVERSITY STATION
LARAMIE, WYOMING 82070
May 7, 1974

Mr. W. E. Allen, Director
Enforcement Section
Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Mr. Allen:

The enclosed analyses are the only ones we have on file for Apache County, Arizona. One is the Dineh-bi-Keyah field, T 36 N, R 30 E, and the other for a wildcat located in T 40 N, R 28 E.

Sincerely yours,

Paul Biggs
Paul Biggs
Supervisory Petroleum Engineer

Enclosures

377

RECEIVED
MAY 10 1974
O & G CONS. COMM.



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

April 19, 1974

Mr. B. G. Taylor
Kerr-McGee Corporation
Kerr-McGee Building
Oklahoma City, Oklahoma 73102


Re: Annual Pressure Tests
Dineh-bi-Keyah Field
Apache County, Arizona
Permit Nos. 377, 379, 396 & 388

Dear Mr. Taylor:

This letter is your authorization to suspend the annual pressure testing of certain designated wells in the Dineh-bi-Keyah Field.

At any time during the course of your operations that you do test any of the wells in this field, this Commission will expect to be furnished the results of such tests.

Very truly yours,


W. E. Allen, Director
Enforcement Section

WEA/r1b



KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

B. G. TAYLOR, VICE PRESIDENT
OIL AND GAS PRODUCTION DIVISION

April 16, 1974

Arizona Oil & Gas Commission
4515 North 7th Avenue
Phoenix, Arizona 85013

Attention Mr. John Bannister

ANNUAL PRESSURE TESTS
DINEH BI KEYAH FIELD
APACHE COUNTY, ARIZONA

The field rules for the Dineh bi Keyah Field require that annual pressure tests be performed on certain designated wells in the field. In our opinion, these tests no longer provide useful data.

It is respectfully requested that Rule F of the field rules for the Dineh bi Keyah Field be rescinded so as to eliminate the well pressure testing requirement. We will, of course, be happy to provide the Commission with a copy of any pressure tests on the field wells should we decide to run additional such tests at some time in the future.

B. G. Taylor

B. G. Taylor

BGT/bs

377

RECEIVED

APR 19 1974



KERR-McGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P.O. BOX 250 • AMARILLO, TEXAS 79105

November 5, 1973

PHONE
806 376-7256

Oil and Gas Conservation Commission
State of Arizona
4515 North Seventh Avenue
Phoenix, Arizona 85013

Attention: Mr. W. E. Allen
Director

Dear Mr. Allen:

In regards to your letter of September 18, 1973, requesting reserve information for the Dineh-bi-Keyah Field and Pinta Dome Field, please be advised that I have referred your letter to our Oklahoma City office and have determined that due to company policy, we are unable to furnish the information at this time.

Yours truly,

KERR-McGEE CORPORATION

Warren E. Richardson
Warren E. Richardson
District Manager
Southwestern District

WER/mm

RECEIVED

NOV 06 1973

O & G CONSV. COMM.

September 18, 1973

Mr. Warren E. Richardson
Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Dear Mr. Richardson:

Will you please supply this Commission with any information that you might have regarding the recoverable reserves in the Dineh-Bi-Keyah Field and also in the Pinta Dome Field?

This information will be considered confidential if you so desire.

Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

377



KERR-MCGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

August 6, 1973

PHONE
806 376-7256

Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

RE: Annual Bottom Hole
Pressure Survey
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Enclosed is completed Form Number 7, Reservoir Pressure Report, showing the annual bottom hole pressure survey for the Navajo Well Numbers 1, 2 and 9, and Navajo Tract 138 Well Number 1. Also enclosed are the calculations and plots for this survey.

Sincerely yours,

KERR-MCGEE CORPORATION

C. J. Breeden

C. J. Breeden
District Production Superintendent

CJB/mm

Attachments

Copies to: USGS
Farmington, New Mexico

Navajo Tribe
Window Rock, Arizona

317

RECEIVED

AUG 06 1973

O & G CONS. COMM.

BNP • BU • PL • DO • QWT • EPS • GOR • FL • IS
TEFTELLER, INC.
reservoir engineering data
Associated with *Donald Owens Co.*

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO

P. O. Box 5247
Midland, Texas 79701

AUG 2 1973

July 31, 1973

Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Attention: Mr. Joe Breeden

Subject: Fluid Level Build Up Measurements
Four Wells
Dineh Bi Keyah Field
Apache County, Arizona
Our File NO. 2-5185-FL

Gentlemen:

Attached hereto are the results of fluid level build up measurements which were made in subject field July 10 and July 12, 1973.

The data presented are in tabular and graphical form.

It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at any time.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller
Neil Tefteller

NT/ct

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AUG 6 1973
O & G CONS. COMM.



KERR-McGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

August 7, 1972

PHONE
806 376-7256

Arizona Oil and Gas Conservation Commission
4515 North 7th Avenue
Phoenix, Arizona 85013

Gentlemen:

Enclosed please find calculations and plots for the annual bottom hole pressure survey conducted on the Navajo #1, Navajo #2 and Navajo #9 wells. This information was inadvertently omitted from the letter dated August 5, 1972.

Sincerely yours,

KERR-McGEE CORPORATION

S. E. Dobler
S. E. Dobler
District Engineer

SED:kj
Enclosures

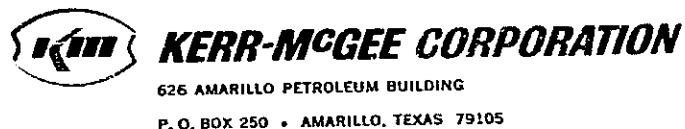
cc: USGS - Farmington
Navajo Tribe
Humble Oil

RECEIVED

AUG 09 1972

O & G CONS. COMM.

377



August 5, 1972

PHONE
806 376-7256

Arizona Oil and Gas Conservation Commission
4515 North 7th Avenue
Phoenix, Arizona 85013

RE: Kerr-McGee Corporation
Annual Bottom Hole Pressure Survey
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Enclosed please find Form #7, Reservoir Pressure Report,
listing results of the annual bottom hole pressure survey
on the Navajo #1, Navajo #2 and Navajo #9 wells.

Sincerely yours,

KERR-McGEE CORPORATION



S. E. Dobler
District Engineer

SED:kj
Enclosure

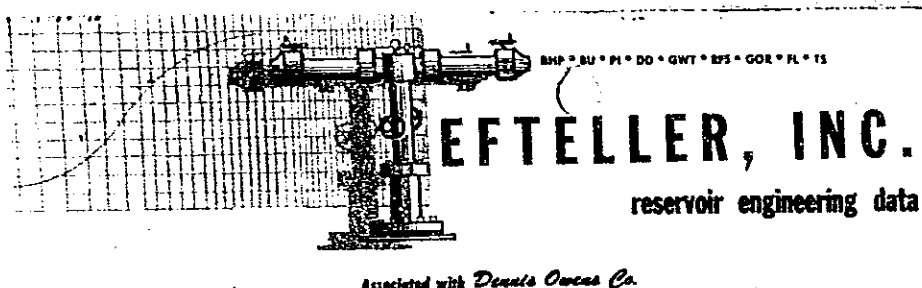
cc: USGS - Farmington
Navajo Tribe
Humble Oil

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AUG 07 1972

O & G CONS. COMM.

#377



TEFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO

P. O. Box 5247
Midland, Texas 79701

July 31, 1972

Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Attention: Mr. Stan Dobler

Subject: Fluid Level Measurements
Four Wells
Dineh Bi Keyah Field
Apache County, Arizona
Our File No. 2-4719-FL

Gentlemen:

Attached hereto are the results of fluid level measurements
which were made in subject field July 19, 1972.

The data presented are in tabular and graphical form.

It has been our pleasure to have conducted this service for you.
If we may be of further assistance, please call us at any time.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller
Neil Tefteller

NT/ct

RECEIVED

AUG 09 1972

O & G CONS. COMM.

377
Serving the Permian Basin & Rocky Mountain Area



KERR-McGEE CORPORATION

626 AMARILLO PETROLEUM BUILDING
P. O. BOX 250 • AMARILLO, TEXAS 79105

August 3, 1971

PHONE
806 376-7256

Arizona Oil and Gas Conservation Commission
4515 North 7th Avenue
Phoenix, Arizona 85013


RE: Kerr-McGee Corporation
Annual Bottom Hole Pressure Survey
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Enclosed please find Form #7, listing results of the Annual
Bottom Hole Pressure Survey on the Navajo #1, Navajo #2,
and Navajo #9.

Sincerely yours,

KERR-McGEE CORPORATION


C. D. Williams
District Manager
Southwestern District
Production Division

CDW:kj
Enclosures

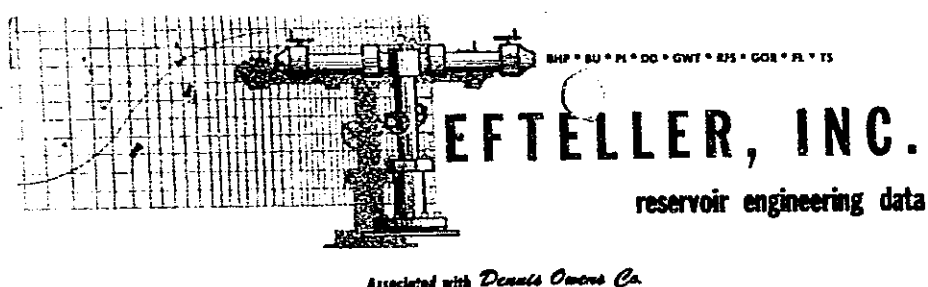
cc: U.S.G.S. - Farmington
Navajo Tribe
Humble Oil

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AUG 5 1971

O & G CONS. COMM.

377



TEFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO

P. O. Box 5247
Midland, Texas 79701

July 30, 1971

Kerr-McGee Corp.
215 Petroleum Center
Farmington, New Mexico 87401

Attention: Mr. Joe Breeden

Subject: Fluid Level Build-up Measurements
& Fluid Level Measurements
5 Wells
Dineh Bi Keyah Field
Apache County, Arizona
Our File No. 2-4306-FL

Gentlemen:

Attached hereto are the results of fluid level build-up measurements and fluid level measurements which were made on wells in the above captioned field July 6, 1971.

The data presented are in tabular and graphical form.

It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at anytime.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller
Neil Tefteller

FT/bt

RECEIVED
AUG 5 1971
O & G CONS. COMM.

377

Serving the Permian Basin & Rocky Mountain Area

X - L. W. K. C.
X - Lambert

August 27, 1969

Mr. Otto Barton
Kerr-McGee Corporation
P. O. Box 250
Amarillo, Texas 79105

Re: Kerr-McGee #1 Navajo
SE/4 SW/4 32-36N-30E, Apache County
Permit #377

Kerr-McGee #2 Navajo
SE/4 NW/4 32-36N-30E, Apache County
Permit #379 X

Kerr-McGee #9 Navajo
SE/4 SE/4 30-36N-30E, Apache County
Permit #396 X

Dear Mr. Barton:

Commission Order No. 24 dated August 16, 1967, established a bottom hole pressure test for the captioned wells within the Dineh bi Keyah Field. This procedure this year was to have been done in conjunction with the testing procedure connected with Case No. 36 applying to the #11 well. Please submit the completed Form 7's on these wells. We enclose a few for your convenience.

Yours truly,

506-X

James A. Lambert
Administrative Assistant

JAL:jf
Enc.

377

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
ROOM 202
1624 WEST ADAMS
Phoenix, Arizona 85007
PHONE: 271-5161

June 12, 1969

Kerr-McGee Corporation
Kerr-McGee Building
Oklahoma City, Oklahoma 73102

Re: Case No. 36

Attention: Mr. John Fisher

Gentlemen:

Pursuant to Commission Order 21A dated May 21, 1969, a meeting was held in the Commission offices at 1624 West Adams Street, Phoenix, Arizona, at 1:00 p.m. on June 11, 1969.

Present at this meeting and representing Kerr-McGee Corporation were Mr. John I. Fisher and Bill P. Stauss. Present and representing Humble Oil Company were Kenneth H. Larson and J. R. Lytle. Present and representing the Oil and Gas Conservation Commission were John Bannister, James R. Scurlock and James Lambert. Also present and representing the Commission in his capacity as engineer was Lowell Walsh of Farmington, New Mexico.

The purpose of this meeting was to establish a testing program for Kerr-McGee Corporation's proposed well, the Kerr-McGee No. 11 Navajo, to be located in the NW/4 SE/4 of Section 32, Township 36 North, Range 30 East, Apache County, Arizona, and being a part of the Dinah-bi-Keyah Field.

As a result of this meeting, the following testing program has been established as satisfactory to this Commission. The program outlined below will be strictly adhered to and no deviation therefrom will be permitted.

TESTING PROGRAM

1. After the Kerr-McGee No. 11 Navajo Well has reached total depth, completed, and after load 11 has been recovered (the initial potential test will be delayed until the first day of full production from this well),

Kerr-McGee Corp.
6-12-69
Page 2

this well will be shut in until its bottom hole pressure has stabilized to within no more than a five pound pressure increase or less over a 24-hour period.

2. After the Kerr-McGee No. 11 Well has stabilized as set forth in Section 1 above, Kerr-McGee Nos. 1, 2, 3X and 4 Navajo Wells will be shut in for a continuous twelve hour period.
3. After the initial twelve hour shut in period as outlined in Section 2 above, Kerr-McGee No. 4 Well shall be put on production.
4. Twelve hours after Kerr-McGee No. 4 Navajo Well has been put on production, the Kerr-McGee No. 3X Navajo Well will be put on production.
5. Twelve hours after Kerr-McGee No. 3X Navajo Well has been put on production, the Kerr-McGee No. 2 Navajo Well will be put on production.
6. Twelve hours after Kerr-McGee No. 2 Navajo Well has been put on production, the Kerr-McGee No. 1 Navajo Well will be put on production.
7. Continuous bottom hole pressure readings shall be recorded in the Kerr-McGee No. 11 Navajo Well for a maximum period of 192 hours from the time that Kerr-McGee Nos. 1, 2, 3X and 4 Navajo Wells are shut in, as outlined in Section 2 above, or until there is evidence of interference in the Kerr-McGee No. 11 Navajo Well, whichever is the lesser time.

Should there be evidence of interference in this well prior to the 192 hours specified maximum time, Kerr-McGee Corporation will immediately notify the Commission at its Phoenix address. Should the Executive Secretary of the Commission be satisfied that there is evidence of interference, he may authorize a cessation of these tests. Should the Executive Secretary not be satisfied as to evidence submitted, test will continue for the full maximum 192 hours, as herein specified.

8. Upon completion of the tests as specified in Section 7 above, Kerr-McGee Corporation may commence the full production of the Kerr-McGee No. 11 Navajo Well.

Kerr-McGee Corp.
6-12-69
Page 3

Commission Order No. 24 dated August 16, 1967 establishes bottom hole pressure testing for certain key wells within the Dinah-bi-Keyah Field. Inasmuch as Kerr-McGee Nos. 1 and 2 Navajo Wells are designated in said order as key wells, the shut in time as above specified in Section 2 of the testing procedure may be used by Kerr-McGee Corporation for its stabilization period for the purpose of compliance with said Order No. 24.

The bottom hole pressure test as called for in said Order No. 24 as to the Kerr-McGee No. 9 Navajo Well and as to the Humble No. 1-138 Navajo Well, shall be conducted as soon as possible after the completion of the above set forth testing schedule.

Should you have any questions, please advise immediately.

Yours truly,

John Bannister
John Bannister
Executive Secretary

/vb

cc - Humble Oil Company
Att'n. J. K. Lytle

Ewell Walsh

Commissioners

U.S.G.S. - Farmington
Att'n. Phil McGrath

The Navajo Tribe
Att'n. P. K. Hurlbut

X Lambert Log
X Chrono Log

March 5, 1938

Herr-McCee Corporation
215 Petroleum Center Building
Farrington, New Mexico 87401

Re: Navajo #1 X
Navajo #2
Navajo #17
Navajo #4
Navajo #3
Navajo #7

Navajo #8
Navajo #10
Navajo #12
Navajo #14
Navajo #15
Navajo #16

Navajo #13 X

Gentlemen:

We remind you that Rule 301 A, Paragraph 2, of our Rules and Regulations directs the operator to take a semi-annual gas-oil ratio test of each producing oil well. The next test should be taken in March, 1938, and reported to this office by April 10, 1938.

Enclosed are forms for your convenience.

Yours truly,

James P. Lambert
Administrative Assistant

JPL

Enc.



KERR-MCGEE CORPORATION

KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico
October 4, 1967

State of Arizona
O&G Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Attn: Mr. John Bannister

RE: Quarterly GOR Tests
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Enclosed please find G.O.R. Tests conducted during the month
of September 1967, as required by Commission Order No. 24.

If any further information is required please notify our
office.

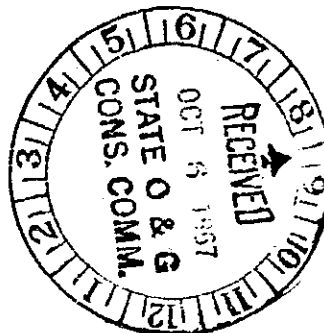
Very truly yours,
KERR-MCGEE CORPORATION

C. D. Williams
C. D. Williams
Production Supt.

CDW/hs

Enclosures

cc: USGS
Tribe
J.I.Fisher
R. W. King
WRF
RF



**KERR-MCGEE CORPORATION**

KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico 87401

August 11, 1967

State of Arizona Oil & Gas Conservation Commission
Room 202 - 1624 West Adams
Phoenix, Arizona 85007Attention: Mr. John Bannister
Executive SecretaryRe: Confidential Well Information
Dineh-bi-Keyah Field
Apache County, Arizona

Dear John:

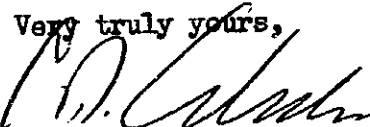
Please be advised that Kerr-McGee has removed from confidential well status the following wells:

- Navajo No. 1	-	SESW, Section 32, T36N, R30E
- Navajo No. 2	-	SESW, Section 32, T36N, R30E
- Navajo No. 3X	-	SESE, Section 32, T36N, R30E
- Navajo No. 4	-	SENE, Section 32, T36N, R30E
- Navajo No. 6	-	SENE, Section 31, T36N, R30E
- Navajo No. 7	-	SESW, Section 29, T36N, R30E
- Navajo No. 8	-	SESE, Section 29, T36N, R30E
- Navajo No. 9	-	SESE, Section 30, T36N, R30E
- Navajo No. 14	-	SESW, Section 31, T36N, R30E
- Navajo No. 15	-	SESW, Section 30, T36N, R30E
- Navajo No. 16	-	SESW, Section 30, T36N, R30E
- Navajo No. C-2	-	SESW, Section 33, T36N, R30E

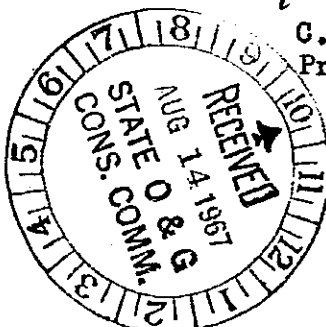
Kerr-McGee desires to hold in the confidential status the information on the following wells:

- Navajo No. 5	-	SESE, Section 31, T36N, R30E
- Navajo No. 13	-	SESW, Section 31, T36N, R30E
- Navajo No. B-1	-	SESW, Section 5, T35N, R30E
- Navajo No. B-2	-	SENE, Section 5, T35N, R30E
- Navajo No. E-1	-	SESE, Section 20, T36N, R30E

Very truly yours,


C. D. Williams
Production Superintendent

CDW:la

CC: USGS - Farmington
Navajo Tribe - Farmington



KERR-MCGEE CORPORATION

KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building

Farmington, New Mexico

July 20, 1967

Air Mail

State of Arizona
O&G Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Attn: Mr. John Bannister
Exec. Secretary

RE: Navajo Lease
Dineh-bi-Keyah Field
Apache Co., Arizona

Gentlemen:

Enclosed please find Form 8, Operator's Certificate of Compliance and Authorization to Transport Oil or Gas from Lease. This request is for approval of change of Transporter of the oil produced from the Lower Hermosa oil wells on the Kerr-McGee Corp. Navajo Lease.

Present producing wells on the lease are Navajo Well Nos: 1, 2, 3X, 4, 6, 7, 9, 14, and 15. If additional information is needed, please advise.

Very truly yours,
KERR-MCGEE CORPORATION

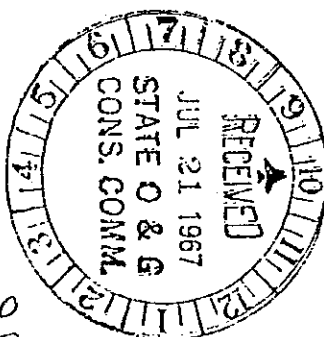
C. D. Williams

C. D. Williams
Production Supt.

CDW/hs

Enclosures

cc: U.S.G.S.
Nav. Tribe
K-McGee Pipeline Corp.
J.I. Fisher
Nav. Lse. File
RF



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377

July 19, 1967

Oil and Gas Conservation Commission
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Attn: Mr. John Bannister

Re: Well Logs For:
Navajo Well 3X
Apache County, Arizona
S32-T36N-R30E

Gentlemen:

With reference to Kerr-McGee's letter of July 12, 1967 wherein the set of electric logs was furnish to the commission with the request that they be kept confidential for the remainder of the six-month period, this is to advise that effective immediately Kerr-McGee authorizes the release and use of the logs on Well #3X.

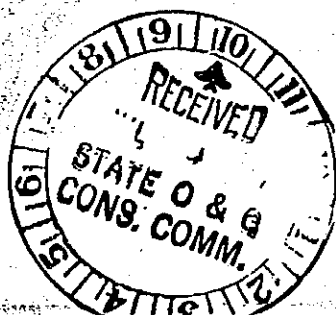
In order to further clarify Kerr-McGee's position, release is also authorized for all other data with reference to the wells for which the logs have also been released.

Very truly yours,

KERR-MCGEE CORPORATION

C.F. Miller

C.F. Miller, General Manager
Oil & Gas Prodn. Oprs.





KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico

July 13, 1967

COPY

United States Geological Survey
Oil & Gas Division
P. O. Box 959
Farmington, New Mexico

Attn: Mr. Phil McGrath

State of Arizona X
O&G Conservation Comm.
Room 202 - 1624 W. Adams
Phoenix, Arizona 85007

Attn: Mr. John Bannister

Navajo Tribe Minerals Dept.
412 Petroleum Plaza Bldg.
Farmington, New Mexico

Attn: Mr. Henry F. Pohlmann

RE: USGS Forms 9-331
Navajo Wells 1, 4, & 13
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

Attached please find USGS Forms 9-331 for the above captioned wells. These wells are located in the Dineh-bi-Keyah Field in Apache County, Arizona.

Please keep this information confidential. Thank you.

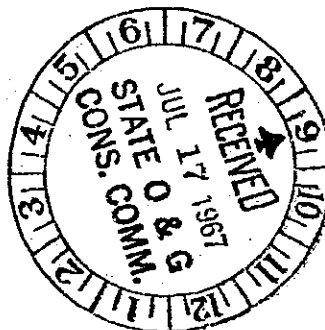
Very truly yours
KERR-McGEE CORPORATION

C. D. Williams
C. D. Williams
Production Supt.

CDW/hs

cc: JIF
WRF's
RF

Enclosures



377

*Many
correct records*



KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

215 Petroleum Center Building
Farmington, New Mexico

June 5, 1967

State Of Arizona
Oil & Gas Conservation Comm.
Room 202 - 1624 W. Adams St.
Phoenix, Arizona

Attn: Mr. John Bannister, Executive Sec.

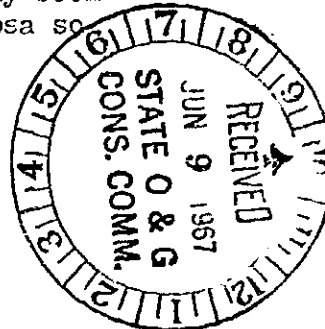
RE: 160 Acre Units
Lower Hermosa Formation
Dineh-bi-Keyah Field
Apache County, Arizona

Gentlemen:

As provided by Commission Order No. 21, oil wells in the lower Hermosa formation shall be on spacing units comprising a full governmental quarter section. Certain wells have already been permitted by Kerr-McGee Corporation with a dedicated area of only 80 acres. The quarter section allotted to each of the wells presently permitted is as follows:

WELL	PERMIT NO.	QUARTER SECTION
Navajo #1	377	SW/4 Sec. 32 - 36N - 30E
Navajo #2	379	NW/4 Sec. 32 - 36N - 30E
Navajo #3X	386	SE/4 Sec. 32 - 36N - 30E
Navajo #4	384	NE/4 Sec. 32 - 36N - 30E
Navajo #5	392	SE/4 Sec. 31 - 36N - 30E
Navajo #6	390	NE/4 Sec. 31 - 36N - 30E
Navajo #7	389	SW/4 Sec. 29 - 36N - 30E
Navajo #8	391	SE/4 Sec. 29 - 36N - 30E
Navajo #9	396	SE/4 Sec. 30 - 36N - 30E
Navajo #12	399	NE/4 Sec. 29 - 36N - 30E
Navajo "B" #1	381	NW/4 Sec. 5 - 35N - 30E
Navajo "C" #1	397	SW/4 Sec. 33 - 36N - 30E
Navajo "E" #1	398	SE/4 Sec. 20 - 36N - 30E

Two wells, Navajo "E" #1 and Navajo "B" #2 have already been drilled and did not obtain oil production in the lower Hermosa so





KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

Attn: Mr. J. Bannister

Page 2

June 5, 1967

these wells were not included. Also, Navajo #3 was not included since it was replaced by Navajo #3X.

If additional information is needed, please advise.

Sincerely yours,
KERR-McGEE CORPORATION

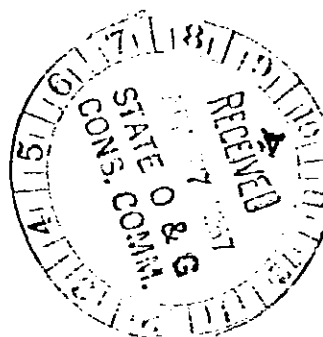
C. D. Williams
Prod. Supt.

CDW/hs



POST OFFICE BOX 9000 • SURREY, TEXAS 75488

April 25, 1967



State of Arizona:

Oil and Gas Conservation Commission

Room 202, 1624 West Adams
Phoenix, Arizona 85007

Attention Mr. John Bannister

Gentlemen :

It is our request that all information on Producing, Drilling, and Permitted wells operated by Kerr McGee Corporation in Dinah bi Meyah Field in Apache County Arizona be kept confidential.

The producing wells are Kerr-McGee Navajo wells No.1, 2, 3X and 7. well no. 7 has been put on pump but has not been potentialed because mechanical and transportation difficulties. Wells started but not completed are Kerr-McGee Navajo No.9 , Navajo No. B-1 and No. B-2.

Wells that have been permitted but drilling operations have not actually started are our Navajo wells No.4, 5, 6, 8 and 12, and Navajo B-1 and C-1. Most of the road and location work has been completed on these locations.

Yours very truly,
Kerr-McGee Corporation

Division Supt. Oil & Gas Production
Surrey, Texas.



KERR-MCGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

April 21, 1967

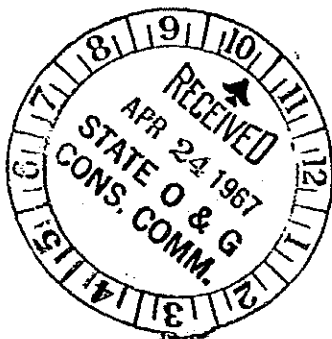
State of Arizona
Oil and Gas Conservation Commission
Room 202
1624 West Adams
Phoenix, Arizona 85007

Attention: Mr. John Bannister,

Gentlemen:

Enclosed is one copy of Arizona Oil and Gas Conservation Commission Form No. 7, Reservoir Pressure Report, for the Hermosa Formation in the Dineh bi Keyah field. The fluid level was measured and the reservoir pressure calculated from the Kerr-McGee Corporation Navajo No. 1, located 660' FSL and 2000' FWL of Section 32, T36N, R30E, Apache County, Arizona.

Please keep this information confidential.



ECR:bb

Enclosure:

Yours very truly,

E. C. Reish, Jr.

E. C. Reish, Jr.
Kerr-McGee Corporation

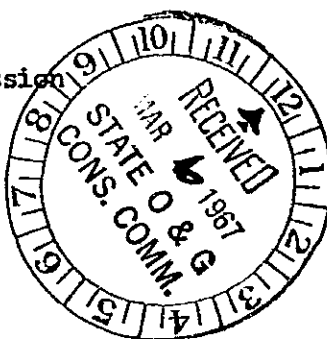


KERR-McGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

March 1, 1967

Oil and Gas Conservation Commission
State of Arizona
Room 202
1624 West Adams
Phoenix, Arizona



Attention: Mr. John Bannister

Gentlemen:

Enclosed herewith is one copy of Arizona Oil and Gas Conservation Commission, Form No. 5, Well Status Report and Gas-Oil Ratio Tests for Kerr-McGee Corporation's Navajo No. 1 Well, Apache County, Arizona.

Yours very truly,

Otto C. Barton
Div. Supt. Oil & Gas Prod.

OCB:wm



KERR-McGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

February 28, 1967

Oil and Gas Conservation Commission
State of Arizona
Room 202
1624 West Adams
Phoenix, Arizona

Attention: Mr. John Bannister

Gentlemen:

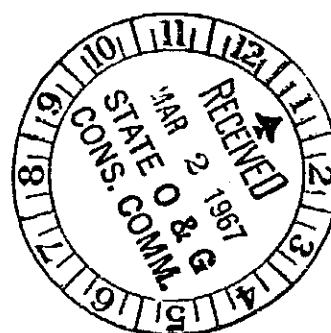
Attached please find three copies of Arizona Oil and Gas Commission,
Form No. P-17, Operator's Certificate of Compliance & Authorization to
Transport Oil or Gas from Lease on Kerr-McGee Corporation's Navajo No. *Lease #*
~~1-Well~~. The Gatherer was changed from McWood Corporation to Permian *14-20-060-8873*
Corporation.

Yours very truly,

Otto C. Barton

Otto C. Barton
Div. Supt. Oil & Gas Prod.

OCB:wm



Approved copy
retd 3-6-67

377



KERR-MCGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

February 24, 1967

Oil and Gas Conservation Commission
State of Arizona
Room 202
1624 West Adams
Phoenix, Arizona

Attention: Mr. John Bannister

Gentlemen:

Attached please find one copy of Arizona Oil and Gas Conservation Commission, Form No. 6, Potential Test & Request for Allowable for Oil Wells on Kerr-McGee Corporation's Navajo No. 1 wildcat discovery well located 2,000' FWL & 660' FSL Sec. 32, T36N, R30E, Apache County, Arizona.

I have sent copies of test to McWood Corporation in Farmington in order that their gauger who witnessed test can sign. The completed form with his signature will be forwarded to your office. *rcd*

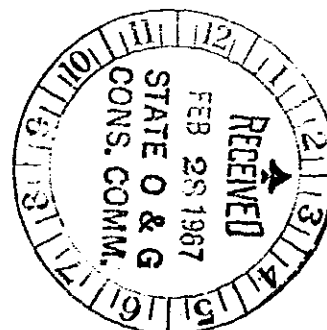
If there is anything else we can furnish on this well please let me know.

Yours very truly,

Otto C. Barton

Otto C. Barton
Div. Supt. Oil & Gas Prod.

OCB:wm



377

Kerr-McGee Corporation
Kerr-McGee Bldg., Okla. City, Okla.
Contact: Porter Wharton, Jr.
Phone: CEntral 6-1313, Ext. 491

FOR IMMEDIATE RELEASE

OKLAHOMA CITY--Kerr-McGee Corporation today announced a new oil discovery on the Navajo Indian Reservation in Apache County, in the northeastern corner of Arizona.

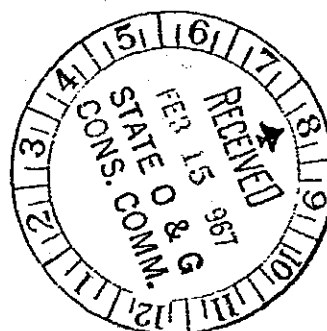
On a 10-hour swab test, Kerr-McGee's No. 1 Navajo well produced at the rate of 648 barrels of 42° gravity oil per day from perforations at 2,860 feet to 2,885 feet opposite a Pennsylvanian age reservoir.

The new discovery is located in the Chuska Mountains about 50 miles southwest of Farmington, New Mexico. Nearest production is located 15 miles east in the Tocito oil field of New Mexico. The Aneth oil field is located approximately 60 miles to the northwest.

Kerr-McGee owns leases on approximately 47,000 acres in the area.

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KMPR 67-2
February 6, 1967
2, 3, 4, 6



February 7, 1967

Kerr-McGee Corporation
P.O. Box K
Sunray, Texas 79086

Attention: Mr. Otto K. Barton

Re: Kerr-McGee #1 Navajo
SE SW 32-36N-30E Apache County, Arizona
Permit 377

Kerr-McGee #4A State
SW NE 32-20N-26E Apache County, Arizona
Permit 378

Gentlemen:

Enclosed is approved copy of Form 17, Operator's Certificate of Compliance and Authorization to Transport Oil or Gas From Lease, covering the #1 Navajo well.

Also enclosed are approved Application to Drill, Drilling Permit, and Receipt 9472, for the #4A State well.

Very truly yours,

John Bannister
Executive Secretary
mr
enc

377

February 1, 1967

Kerr-McGee Corporation
P.O. Box K
Sunray, Texas 79086

Attention: Mr. Otto C. Barton, Division Production Supt.

Re: Kerr-McGee #1 Navajo
SE SW 32-36N-30E, Apache County, Arizona
Permit 377

Gentlemen:

Enclosed are the necessary forms to be filed with this Commission to cover your current operations on captioned well. In addition, during our telephone conversation of this date you were advised to forward copies of reports made to U.S. Geological Survey.

I might point out to you that before any product can be transported from the lease form 8, Operators Certificate of Compliance and Authorization to Transport, must be approved by this Commission.

This has been very good news for the State of Arizona. Please be assured of our cooperation with you in every way we are able.

Very truly yours,

John Bannister
Executive Secretary
mr
enc: Form 4, 8, 6, 5

377



KERR-McGEE CORPORATION

POST OFFICE BOX "K" • SUNRAY, TEXAS 79086

January 17, 1967

Oil and Gas Conservation Commission
State of Arizona
Phoenix, Arizona

Attn: Mr. John Bannister

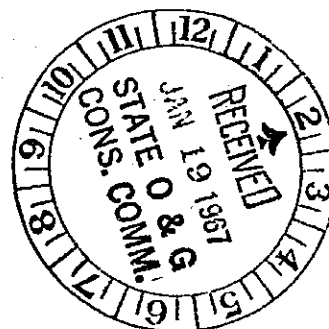
Dear Mr. Bannister,

Attached please find Form #3 Application for Permit to Re-enter, Kerr-McGee's Navajo no: 1 well, located Section 32 - T36N - R30E Apache County, Arizona. Also attached please find draft in amount of \$25.00 covering filing fee for this permit. Please place one copy of approved permit in Draft Envelope and return one copy to this office. It is our request that all information regarding this well be Kept Confidential.

Yours truly,

Otto C. Barton
Division Production Supt.

OCB:bb



1-17-67

Otto Barton, Kerr-McGee, telephoned

Plan to re-enter #1 Navajo
Permit 303

Approx 1-19-67

Perforate from 2860 - 2885 & test.

Gave verbal permission & advised
him to get in Applic to Re-enter
and \$2500 filing fee as quickly
as possible